REPORT RESUMES

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A COMPARISON OF METHODS OF OBSERVATION IN PRESERVICE TEACHER TRAINING--THE USE OF TELEVISION FOR IMPROVING TEACHER TRAINING AND FOR IMPROVING MEASURES OF STUDENT-TEACHING PERFORMANCE, PHASE II.

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THIS REPORT REPRESENTS THE SECOND PHASE OF A TWO-PART RESEARCH PROJECT CONCERNING WAYS TO IMPROVE CERTAIN ASPECTS OF TEACHER EDUCATION THROUGH CLOSED-CIRCUIT TELEVISION AND KINESCOPE RECORDINGS. IN THIS PHASE IT WAS PREDICTED THAT KINESCOPE RECORDINGS WOULD PROVIDE A MORE EFFECTIVE MEDIUM OF OBSERVATION THAN LIVE TELEVISION, AND THAT TELEVISION OBSERVATION WOULD IN TURN BE MORE EFFECTIVE THAN OBSERVATION IN THE CLASSROOM. MEASURES OF TWO DEPENDENT VARIABLES WERE USED TO TEST THE HYPOTHESIS--(1) STUDENTS' RESPONSE TO THE OBSERVATIONAL TECHNIQUES THROUGH AN OBJECTIVE MULTIPLE-CHOICE MEASURE OF INFORMATION ABOUT TEACHING METHODS, AND (2) AN ESSAY EXAMINATION ASSESSING ABILITY TO CRITICALLY EVALUATE AN OBSERVED CLASSROOM LESSON. MEASURES OF PERFORMANCE ON THE ESSAY EXAMINATION STRONGLY SUPPORTED THE MOTION THAT KINESCOPE RECORDINGS WERE MORE EFFECTIVE THAN CLOSED CIRCUIT TELEVISION AND THAT BOTH WERE MORE EFFECTIVE THAN DIRECT OBSERVATION. PHASE I WAS REPORTED IN ED 003 510. (JC)

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The Use Of Television
For Improving Teacher Training
And For Improving Measures
Of Student-Teaching Performance

PHASE 2.

PHASE II.

A COMPARISON OF METHODS OF OBSERVATION
IN PRE-SERVICE TEACHER TRAINING

U. S. Office of Education Grant No. 730035

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New York, N. Y.

1963

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HUNTER COLLEGE TEACHER EDUCATION--TELEVISION RESEARCH PROJECT

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FOREWORD

This report represents the results of the second phase of a two-part research project designed to investigate ways to improve certain aspects of teacher education through the use of closed-circuit television. Phase I of the project investigated the effectiveness of using both live and recorded television in the process of student teacher supervision.* Phase II, the subject of this report, investigated the effectiveness of using live and recorded television in providing observational and demonstrational material for an elementary education "methods" course.

These projects are part of a multi-dimensional effort by the staff of the teacher education program at Hunter College to investigate the possibilities of the sight-sound media for the improvement of major teacher education functions. Two functional areas seemed to offer a ripe field for investigation and improvement: the guidance of student teachers, and the observation of teaching-learning situations in connection with courses in the professional Education sequence. In the former, the problem of objective appraisal of a teacher's performance by his supervisor and the objective self-appraisal of the teacher of his own performance, are keys to the proper guidance of the student teaching experience. The ability of the medium of closed-circuit television, particularly in remote control applications, seemed to show promise of providing effective means of giving supervisors more pointed and less distracting (to the student teacher) views of a student teacher's performance, and in the form of kinescope or videotape recordings, of providing the student teacher the opportunity of seeing himself as he was experienced by his students, and thereby attaining a more meaningful and personal basis for self-improvement. Unfortunately, comparison of three methods of supervision (1. direct, in-person observation, 2. kinescope recordings, and 3. a combination of both direct and recorded observation), failed to show significant differences among these supervisory methods. Incidental results and experiences did, however, show encouraging possibilities 1. in further technical adaptations of the medium to achieve greater fidelity of sight and sound, camera flexibility, and a minimum of distraction of subjects (in other words, a close approximation of a "slice of life" of classroom events), 2. in the use of student teaching recordings for the standardization of supervisory procedures, and 3. for further research on the nature and measurement of teaching-learning behavior. In addition, some members of the research team are determined to investigate further the self-appraisal possibilities of recorded television for the improvement of an individual's teaching skill, in spite of the inability to prove the point in the first research attempt, beset as it was by technical problems and certain suspected limitations of the evaluation instruments used.

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*Schueler, Herbert, Gold, Milton J., and Mitzel, Harold E. The Use of Television in Teacher Training and for Improving Measures of Student Teaching Performance, Phase I, Improvement of Student Teaching. New York: Hunter College (U. S. Office of Education Grant No. 730035), 1962 (mimeographed).

The technical know-how gained in the first phase by both technical and research staffs, and further refinements. alterations, and additions to the television system, have notably assisted the course of subsequent research, including the latter stages of Phase II. In this gradual, and sometimes painful, progression of technical and research staffs from amateur to at least "semi-pro" status, there is ground for confidence that present and future research efforts in this field will not be handicapped nearly as much by limitations due to improper guidance and malfunction of the technical equipment.

In the case of Phase II, the object was to compare the relative effectiveness of 1. in-person observation, 2. observation via "live" television, and 3. observation via specially prepared kinescopes, on the acquisition of certain competencies expected of students in a course in elementary school curriculum and methods. It is with some satisfaction that in certain vital areas of expected student gain, statistically significant differences were demonstrated in favor of both recorded and "live" television observations over in-person observations, and of recorded television films over "live" television observation. (This represents an interesting change from the ubiquitous "no significant difference" findings in new media research as applied to education.) Such findings, if confirmed by subsequent replication and related research, should provide additional stimulus both for the wider use of remote control television installations in schools for teacher education observation and demonstration, and for the production and wide-spread distribution of kinescopes and videotapes appropriate for study in professional training. At Hunter College this is already under way, with video materials being produced in such areas as the education of the handicapped, the gifted, the teaching of foreign languages, English, and other areas of the secondary school curriculum, and demonstrations of testing and therapy for courses in the psychological foundations of education.

In addition, a third major research project, supported in part (as are Phases I and II), by the United States Office of Education, is attempting to assess the use of kinescopes for effective training and evaluation of empathic behavior in counselors-in-training. As a part of the larger research commitment of the Hunter program of new media investigations, it represents an interesting outgrowth of Phases I and II, by extending both the appraisal and demonstration function of TV recordings to the processes of counselor training.

It is hoped that ultimately the methods of research and analysis developed in projects such as these will provide significant advances in our knowledge of the nature of teaching-learning activity, as well as improve measurably our ways of developing competent teachers, counselors, and supervisors.

The project reported herein is truly the result of a coordinated team approach to research. While Professors Stoller and Lesser, the authors of the report, bore the major responsibility for the conduct of the research, they were assisted in many indispensable ways by many colleagues from Hunter and the New York City school system. In fact, both this project and its predecessor are notable examples in themselves of close collaboration between school system and university. The project has had the benefit of sanction and active cooperation from the administration of the New York City school system, particularly Deputy Superintendent John King and Assistant Superintendent Florence S. Becker. The teachers from the schools who consented to appear with their children in the goldfish bowl that is television, were noteworthy in their enthusiasm, patience, skill, and professional integrity. Their names, together with their principals and supervisors who helped and supported them are listed in the pages that follow.

Finally, particular mention must be made of the colleagues who, with Messr's Stoller and Lesser, made up the primary team of the project: Miss Gertrude K. Dever of Hunter College Elem. School who with Dr. Stoller shared the teaching of the experimental college sections; Dr. Philip I. Freedman who was chiefly responsible for the administrative arrangements and the logistics of the project; and Mr. Robert E. Brock, the indefatigable, inventive chief of the technical staff.

The pump of research requires occasional priming. This one is no exception. The resources of Hunter College and the Division of Teacher Education of the City University were supplemented to considerable extent by the United States Office of Education, New Media Branch, for this project, and are hereby acknowledged as sincerely as they were gratefully received. It is hoped that the progress reported, the results obtained, and the experience gained, will in some good measure justify the aid given.

August 1963

Herbert Schueler
Director of Teacher Education
Hunter College of the City
University of New York

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This project was conducted under the auspices of the Hunter College Teacher Education Program, Dr. Herbert Schueler, Director.

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Nathan Stoller, Associate Professor

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Dr. Philip I. Freedman, research associate, rendered invaluable assistance in building and refining the multiple-choice examination, in helping to score the essay examinations and in administering many aspects of the project.

Miss Gertrude K. Dever not only served as one of the instructors, but used her considerable experience and ability to facilitate the operation of the project.

We wish to thank Mrs. Edith A. Alleyne, who served as one of the instructors during the "dry run" year preceding actual experimentation.

In addition, we wish to acknowledge the contributions of members of the Education Department in whose classes the examinations were pre-tested, and the special assistance rendered to the project by Dr. Gordon Fifer and Dr. Robert H. Davage, Assistant Professors (Hunter College) and Dr. Otello Desiderato (Connecticut College for Women).

Chapter 1

INTRODUCTION

It has become commonplace to list some form of observation of children among the primary ingredients of the teacher training process. Discussions of the relative merits of various observational techniques in teacher training cite several theoretical and practical advantages of observing classroom behavior by means of closed-circuit television and kinescope recording. For example, these procedures allow all students to share common experiences with their college instructor, permit the instructor to be present at the demonstration lessons and thus direct the students' attention to specific aspects of the classroom lesson, and facilitate the coordination of the topic considered in the college classroom and the lesson conducted in the elementary school classroom. The purpose of this study is to determine the degree to which these presumed advantages actually result in more effective learning by college students.

When compared with more traditional forms of observation, will the use of closed-circuit television and kinescope recordings as devices for classroom observation produce better learning of information concerning methods of teaching and greater ability to analyze and evaluate an observed elementary-school lesson? The general form of the hypothesis tested in this study is that different techniques of observing classroom lessons will result in different degrees of learning by teachers-in-training; specifically, it is predicted that kinescope recordings (prepared in advance) will provide a more effective medium of observation than closed-circuit television, and that television observation will in turn be more effective than the traditional procedure of direct observation in the elementary school classroom. In testing this hypothesis, the criteria of observational effectiveness are the learning of information regarding methods of teaching and the ability to critically evaluate the classroom behavior of children and teachers.

The theoretical justification of this hypothesis resides in the logical comparisons among observational techniques. These may be enumerated as follows:

I. Availability of Cooperating Teachers:

The college instructor using direct observation (DO) in the classroom must select his cooperating teachers and schools within a limited geographic area to minimize travel time between college and school. Within this area he may not find teachers who either use precisely the methodology and procedures he wishes to exemplify to his students or provide instruction worthy of observation even though it is based upon a rationale somewhat different from that of the instructor.

The instructor using closed-circuit television (TV) as the observational technique need not confine himself to the small geographic area used in direct observation. He can seek out those teachers whose instructional techniques meet his standards and transport them and their classes to the college transmitting rooms. Under normal circumstances this is a rather costly procedure, but it insures the availability of the prescribed lesson.

The instructor using observation via prepared kinescopes (K) has the same freedom of choice as that available under TV. The cost, and inconvenience, however, are not as great. If the same kind of lesson is to be observed via TV in more than one semester, transportation must be multiplied by the number of semesters. However, once a kinescope has been made of a teacher's lesson in the studio, it can be used as many times as desired.

II. Availability of Appropriate Classroom Lessons:

A. Correspondence between College and Elementary-School Programs:

Under the DO condition, the instructor will often find it difficult to establish proper correspondence between the order of topics in his syllabus and the instructional program in the school. If, for example, he has planned to deal with reading readiness in March of a Spring semester, it will be difficult to find first-grade teachers doing this kind of work with children at that time of the public school year.

Since the instructor using TV can involve a larger number of schools in the demonstration program, there is a greater likelihood (though not a certainty) of his finding teachers whose instructional programs correspond with his course syllabus.

The K technique completely eliminates the problem of establishing correspondence between college and elementary-school programs. Teachers and classes can be brought to the college studio room at the time they are ready to deal with a given topic. Thereafter, the kinescope can be shown to the college class at the proper place in the syllabus.

B. Lesson Planning:

Under DO, college instructors and public school teachers generally do not have sufficient time in advance of demonstrations to discuss each lesson in every particular. Often the pattern is one of communication between principal and instructor, the latter asking, for example, for a basal reader lesson in a given grade or for the introduction of a social studies unit, the topic to be chosen by the demonstrating teacher. Even in direct communication with the demonstrating teacher the instructor can only ask for that which the teacher is ready and willing to demonstrate at that particular time.

Since TV permits simultaneous observation by more than one college class, it is possible for the college to schedule a number of sections of this course for a common meeting time. By collapsing the number of necessary planning sessions, it becomes both more feasible and more necessary for instructors and teachers to spend time on each joint lesson planning.

Under the K condition, lesson planning, both by the teacher alone and by teacher and instructor jointly, is particularly refined, because the lesson is to be recorded only once. Just as writing is screened more carefully than extemporaneous speech, so does the teacher plan a recorded lesson in greater detail than an unrecorded one.

C. Lesson Execution:

Under DO, even when both instructor and teacher do have time to confer and do agree on the lesson plan, neither can predict the interaction in the classroom once the lesson is in progress. As a result, the college instructor is handicapped in preparing his students for the observation. Since he cannot predict the exact details of the lesson, he can only orient his students in general to the kind of lesson it will be, to the subject matter at issue, to the characteristics of the pupils, and to the teacher's approach. If the lesson moves off into an acceptable but unplanned-for direction, the college students view this situation minus advance preparation.

Even with TV the instructor cannot predict precisely how the lesson plans will be executed. However, the joint planning feature does offer the instructor a better basis for preparing his students for what they are likely to see.

The K condition possesses several advantages regarding "Lesson Execution." The instructor faces no problem in predicting the interaction in a recorded lesson; he previews the kinescope and can tell his students precisely what they will see and what they are to look for. Also, the kinescopes can be edited to eliminate undesirable educational as well as technical features. Many more lessons can be recorded than are actually necessary, giving the instructor the opportunity to select lessons or lesson segments for final use. In this way, a single reel of film can contain segments from lessons taught by a number of teachers for comparing their instructional techniques.

III. Availability of a Common Lesson for All College Students:

The traditional elementary classroom is not built to accomodate both a large group of children and a full college class of 25-30 students. Under DO, this makes it necessary to divide college classes into two or more groups, each observing in a different elementary-school room, making it impossible for the entire class to see the same lesson. Also, teachers frequently insist on a small number of observers, both because of their own discomfort in being observed by a large group and the purported effect of a large audience on the normal behavior patterns of the pupils.

Under both the TV and K conditions, the inability of all college students to view a common lesson is completely eliminated. All members of the college class are able to view the same lesson simultaneously. The only "audience" present in the studio consists of cameras and microphones. However, this mechanical audience, the real (but unseen) audience of instructor and students, and being in a college studio room all lead to some indeterminate degree of artificiality for the elementary-school teacher and children. Whether this artificiality exceeds that created by having visitors in one's own classroom is also indeterminate.

IV. Role of the College Instructor:

A. Availability of the Instructor:

Because the college class must be divided into small groups in making observations under DO, it follows that the instructor cannot accompany each group. The instructor, obviously, cannot be as effective in elaborating upon instructional procedures he has not observed in person. Doing so on the basis of second-hand knowledge, elicited from pre-service students, is not likely to be as productive as using his own notes and memories of the lesson.

Since under both TV and K, the instructor views the observation simultaneously with all his students, this difficulty is completely eliminated.

B. Instructor as Observer and Commentator:

During the DO lesson itself the college instructor must remain a silent observer. He cannot direct the attention of his students, from moment to moment, to what he regards as the significant features of the lesson. His pre-service students, being novitiates in teaching, cannot be expected to see what the instructor sees. When they return to the college classroom to discuss the observation, the instructor frequently finds that many of his students have no notes or memories of certain events in the lesson. For one reason or another they noted peripheral rather than central features. This reduces the meaningfulness of the observation.

With TV the instructor need not remain silent. Though the lesson is in progress, he can guide his students in three different ways: (1) he can direct the technical staff to focus their cameras on any aspect of the interaction,[a] (2) he can literally point the attention of his students to

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[a] The Hunter College classrooms used as television viewing rooms were connected to the control room by a local telephone system which made direct communication possible.

particular segments of the television screen, and (3) he can adjust an audio volume control device which will permit him to turn down the volume of sound originating in the studio so that he can comment on the lesson in progress.[b] (This is especially valuable when the lesson seems to be moving in un-planned, though acceptable directions.)

With K the instructor has all three of the advantages of TV and in addition he can (1) stop the projector at any point to make comments and not lose any of the on-going classroom activity as he would under TV, and (2) project repeatedly any portion or all of the entire kinescope. (It may not be obvious that the K instructor does indeed share the TV instructor's ability to direct the technical staff to focus their cameras on any aspect of the interaction. The K instructor has earlier exercised this prerogative by directing the filming of the kinescope which he later shows his class.)

V. Student's Field of Vision:

Under the DO condition, the student is free to focus on any aspect of the entire classroom situation, even though he has received some prior advice about what the instructor considers the pertinent focus to be. He can react to the classroom atmosphere by noting such things as temperature, ventilation, decoration, displays of student work, routines, etc. This may lead him to concentrate on peripheral aspects of the lesson, but it may also provide him with supporting evidence for effective evaluation of the lesson.

In contrast to the DO student's complete freedom to view any aspect of the class situation, the TV student is provided with only two television screens. In the present project these two views were selected from a total of four (there being four cameras in the studio), thus restricting the student's freedom. This restriction can, however, be looked upon as an asset, since the selection of material relayed to the college classroom was under the direct control of a member of the project staff whose choice of views was based on prior consultation with both college instructors and demonstrating teacher and could be further amended by use of a local telephone which connected the college classrooms with the TV control room. Thus the student was provided with selected views of the lesson, views which should perhaps aid him to grasp its essence with greater ease.

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[b] The Hunter College viewing rooms were equipped with a volume control unit for use by instructors.

The K student had only one view of the lesson, that provided by the kinescope itself. Though this severely restricted his freedom, it also provided him with that particular focus for the lesson which the instructor had built into the kinescope. Theoretically this should be a great advantage to the student; in addition to whatever verbal preparation the instructor provided in advance of projecting the film, the student was, in a very real sense, seeing the lesson as the instructor saw it. While the student's view is restricted to a single image, this should have enhanced the student's perception of the instructional techniques being demonstrated.

VI. Administrative Arrangements:

The course in methods of teaching in which this study was conducted meets in two double hours per week. Under DO, this makes it possible to travel to public schools even when students have other college classes both before and after this double hour.[c/] Travel time to and from the public school consumes about 40 minutes (on the average) out of the 100 minutes available in the double hour. The remaining 60 minutes are usually programmed as follows:

a. brief orientation to the school and the lesson by the principal or his designee..............................5 minutes

b. direct observation in two different classrooms by each half of the college class (when the division is only into two groups)................................50 minutes

c. discussion period with the principal or his designee..5 minutes

On the average, 40% of the college students' time alloted for observation is consumed by travel.

Under both TV and K conditions, college classes remain in their regular classrooms and no time is lost in travel.

To summarize these logical comparisons among DO, TV, and K conditions, it is apparent that both TV and K are superior for most of the points enumerated. Problems under DO of the "Availability of a Common Lesson for All College Students," "Availability of the College Instructor," and "Administrative Arrangements" are completely eliminated under TV and K. There are

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[c/] The factor of transportation as a limiting condition for DO is a local phenomenon due to the gifted pupil population at the Hunter College Elementary School. This issue would have a different resolution in a college with a more typical campus school population. Also, some teacher training institutions are now connected to public schools by remote transmission facilities. Such an arrangement would obviate the need to transport TV and K teachers and children to a college studio.

also strong logical bases for expecting more effective observation under *K* and *TV* than under *DO* on all the other grounds discussed except the "Student's Field of Vision" and the relative artificiality of elementary-school classroom behavior; both of these latter issues are presently indeterminate. It is unclear whether the focusing of the student's field of vision under *K* and *TV* is outweighed in importance by the unrestricted view of the classroom available under *DO*. It is also unclear whether the artificiality created for elementary-school children and teacher by cameras and microphones is greater than the artificiality created by the presence of unfamiliar visitors in the classroom.

How do *TV* and *K* compare logically? The *K* condition can guarantee "Correspondence between College and Elementary-School Programs" whereas *TV* cannot fully assure this. The *K* condition is somewhat more efficient for "Availability of Cooperating Teachers" and "Lesson Planning" and has marked advantages over *TV* for "Lesson Execution" and "Instructor as Observer and Commentator." On rational grounds, then, *K* should display superiority to *TV* as an observational device.

The logical analysis leads directly to the hypothesis stated earlier: kinescope recordings will provide a more effective medium of observation than television which in turn will be more effective than direct observation in the classroom.

One subjective argument remains in comparing these observational techniques: the contention that any image filtered through any form of machinery (e.g., *K* or *TV*) loses its life-like quality and is consequently less dramatic or convincing than any activity observed directly. If this contention is true, it does, of course, counter-indicate the result predicted by the stated hypothesis.

What does research evidence indicate about the validity of this logical analysis of differences among observational methods in their comparative capabilities to teach college students about teaching? While existing evidence provides some partial precedents for identifying the overall utility of the different approaches to observation, current research is not sufficiently detailed or precise to reflect upon each separate point in the logical formulation.

Even the broad research on this topic suffers from several serious deficiencies. Despite several cogent efforts (e.gs., Carpenter, 1962; Finn, 1960; Hoban, 1962; Meierhenry, 1961; Miller, 1957; Norberg, 1962) to develop systematic theories of learning, perception, and communication to guide research, media studies still tend to be discrete atheoretical efforts which fail to contribute to a cumulative analysis of the role of observation in the teacher training process.

Beyond this general absence of theory-directed investigation, one recurrent problem of data interpretation aptly illustrates the inadequacy of media research at the theoretical level. "No Significant Differences" abound in media research (cf. Holmes, 1962; Williams, 1962); these are generally interpreted as signifying (1) the equal effectiveness of the devices compared, and (2) the fact that all the media studied are effective instructional devices. The further conclusion is usually drawn that, since inequality of effectiveness has not been experimentally observed and equality therefore exists, decisions concerning media selection should be made on such extra-scientific criteria as administrative ease and economy. These misconceptions are reflected in this statement:

"No doubt the force of the criticism of redundancy in

> television research arises from the sheer number of studies and the monotony of the ubiquitous finding, 'no significant difference.' From the sheer quantitative weight of such evidence it is argued that there can be no doubt of the fact that 'television can teach.' I would agree. The fact is there. It has been 'proved.' ......" (Norberg, 1961, pp.A11.)

These are theoretical misinterpretations of the absence of media differences in effectiveness. It is logically indefensible to interpret the failure to reject the null hypothesis as positive evidence that all media are effective and equal in their impacts.

The numerous methodological problems which appear in media research also make it difficult to relate current findings to the present analysis. Appropriate and powerful experimental designs are rarely found, definition and measurement of variables are imprecise, and the unbiased selection of experimental and control samples of S's is uncommon.

However, there are two fundamental obstacles in particular which limit the utility of media investigations. First, the "research" literature on this topic does not usually report empirical evidence but is, rather, composed of testimonials for the use of television (e.gs., Adkins, 1960; Engbretson and Pendergraft, 1960; Nardelli, 1960; Rench, 1961; Weiss, 1962; Wooley and Smith, 1962). Criteria for assessing media effectiveness are most often expressions of the subjective reactions of students and teachers. The need for objective measures of change in defined dependent variables is great.

Second, the research which has accumulated deals with broad, global, multidimensional independent and dependent variables. Typically, these variables are not defined and measured with sufficient precision and detail to permit application to each of the several logical comparisons among observational techniques offered here.

Thus, media research rarely investigates the processes basic to the role of observation in the training of teachers. Comparative effectiveness studies predominate; studies of fundamental principles of teaching and learning via observation are infrequent. Granting these limitations, and the existence of the ubiquitous "no significant differences," what precedents does previous research provide?

In the field of teacher education, most studies of media as instruments of observation compare direct observation of elementary-school classes and observation via television, a few compare direct observation with kinescope recording, and isolated instances compare all three observational conditions.

Comparisons of the relative effectiveness of direct observation and telivision observation yield almost uniformly negative results (e.gs., Devault, Houston, and Boyd, 1962; Rogers, 1962; Rumford, 1962); no significant differences appear. Comparisons of direct observation and (kinescope) film obervaion (e.gs., Fulton and Rupiper, 1961, 1962; Painter, 1961, 1962; Van Horn, n.d.) reflect almost the same unrelieved inability to locate meaningful differences, but certain instances of specialized experimental conditions and subject matter produce a few sporadic results favoring observation of prepared films (e.gs., Deutschmann, Barrow, and McMillan, 1961; Fulton and Rupiper, 1961, 1962). When all three observational conditions are compared (e.g., Abel, 1960), no significant differences reappear.

Although the evidence cited is not especially promising for the discovery of improved observational procedures through closed-circuit television and kinescope films, the underlying logic for the advantages of these procedures appears theoretically convincing. Why this discrepancy between logical assumptions and previous research results? Apparently, certain conditions of experimentation must be met to yield productive research evidence. We concluded that at least the following minimal conditions must exist in order to provide an adequate test of the hypothesis.

1. General Characteristics of the Observational Conditions:

a. For all observational conditions, a sufficient number of experiences are conducted over a sufficient period of time for the consequences of differential effectiveness of the various conditions to emerge.

b. College classroom discussions of observed behavior have often shown a tendency to concentrate upon the criticism of faulty classroom technique; for all observational conditions an attempt is made to maintain a balanced discussion of observations, focusing upon positive, constructive features as well as upon deficiencies.

c. For the kinescope condition, the films finally employed in this research are selected from a large pool of kinescoped films produced especially for this project and edited to fit the teaching methods of the college instructor and the educational objectives of the course.

2. Role of the College Instructor in the Observational Conditions:

a. In all observational conditions, the context of the classroom lessons to be observed is carefully prescribed by the college instructors to fit precisely into identified points in the college course syllabus; such integration of elementary-school lesson and college curriculum is designed in advance of arranging the specific observational experiences. This condition is in marked contrast to the position (e.g., Sarason, Davidson, and Blatt, 1962) that the teachers-in-training should decide what to observe, evaluate, and articulate.

While this approach does perhaps produce a more active role in problem solving, discursive discussions, essentially irrelevant to the concepts and principles taught in the college course, are difficult to avoid. We also believe that novices in teaching need a structured framework about the nature of the instructional process both to guide their individual observations and analyses of lessons and to promote effective intra-class communication.

b. For all observational conditions, the observations are designed and conducted under the direction of the instructors who will use them in their college teaching; advance planning includes as much detailed consultation as possible among the college instructors, elementary-school teacher, and (for the television and kinescope conditions) the television production staff.

c. For all observational conditions, college instructors attempt to maximize the value of each observation in preparing their students for the observation and in conducting discussions during and after the observation.

d. For the kinescope condition, the college instructor plans and directs the production of all films.

3. Criteria of Change Resulting from Observation:

a. Dependent variables are selected which are rationally linked to the capabilities of observational media; while numerous claims are made for television and kinescope films as devices for teaching a great variety of performance skills and information, only those variables which could logically be expected to change through exposure to observation were designated for study.

b. An attempt is made to obtain a broad assessment of the differential effects of observation by measuring not only the relative gain in information about methods of teaching but also the ability to apply such information to the critical evaluation of the classroom behavior of teachers and children.

c. These dependent variables are operationally defined and reliable assessment instruments are constructed (through numerous trials and revisions) to provide an objective appraisal of change.

4. Experimental Design:

a. Analysis of variance is employed to determine not only the influence of the main treatment effects (observational conditions, instructor differences, differences among college students in general scholastic ability) but the interactions among these independent variables.

b. Random assignment of S's to experimental conditions is conducted.

c. A substantial sample of S's is insured by the use of twelve sections of the college course (six in each of two successive semesters).

d. Replication of the study is conducted during two successive semesters.

e. Provision is made for the control or systematic variation of factors (other than the observational condition) which are potentially associated with changes in degree of college learning, e.egs., intelligence or general scholastic ability, instructor differences, class size, knowledge of language structure and usage basic to the learning of methods of language arts instruction, and skill in responding to objective examinations irrespective of their content.

f. When feasible, pre-post measures of change are used to control for initial differences among college students in status on the dependent variables.

Extreme efforts were made in the present study to meet each of these foregoing conditions requisite to the systematic comparison of observational techniques. However, it was unfortunately not feasible to meet certain other conditions and these represent the limiting boundaries of this research:

1. The hypothesis tested compares the relative effectiveness of three observational approaches. We have not asked if any or all of these forms of

observation are superior to no observation at all. While this latter question is crucial to the analysis of teacher training, it was not administratively permissible in this research to use a zero group or control sample which received no observation in any form. Hence, no baseline is available to represent the gain in learning in the absence of formal observation.

2. Criterion measures were administered only at the beginning and end of the semester. Again, it was not administratively possible to conduct continuous, ongoing assessment during the course of the semester. Such repeated, continuous evaluation would be of great value in the study of the cumulative processes which eventually produce a particular end result. Since the effects of the observational techniques are expected to be cumulative, it would be productive to observe the progressive effects in detail by continuous evaluation throughout the duration of the semester.

3. Long-term follow-up of the college students was not conducted. Are differential gains due to the observational conditions temporary or stable? We have not attempted to answer this question.

4. While we have indicated our intention to provide a broader assessment of gain, and have measured not only knowledge gain but the ability to apply knowledge in critical appraisal, we were unable to assess several other potentially important criteria:

a. Since objective achievement measures have been so insensitive to differences in media conditions, many studies (e.g., Follis, 1961; Thompson, 1960) have stressed subjective student reactions in criterion measures. However, such measures of student satisfaction show negligible relationships to objective measures of learning, are almost impossible to measure reliably, and are of very doubtful validity because of the many spurious influences with which they are confounded (e.g., the need to please an instructor who has, openly or implicitly, indicated his preference among techniques). Thus, we made no attempt to assess the degree of student satisfaction with the various observational devices.

b. Another potentially valuable criterion is the degree to which students taught by different methods make use of their knowledge and skills in other related courses. For example, it is conceivable that students observing directly in the classroom would better transfer information to a college course in child development (where the child is the center of emphasis) whereas students observing by television or kinescopes would show more transfer to other courses in teaching methods (where the emphasis is upon the teacher). It was, unfortunately, not feasible to conduct such an analysis within the scope of the present study.

c. The crucial criterion is the degree to which observation via different media affects the students' actual ability to teach. It was again not feasible to utilize the criterion of actual teaching performance in this study.

5. While several variables were carefully controlled in this study, other possible sources of variation exist. Observational conditions differ in novelty effects on both college students and instructor, the degree of escape they provide from usual classroom routines, and the degree to which performance is influenced by the need to please the instructor, and variations in the instructors' enthusiasm for certain of the observational methods. It may be argued that these factors are integral components of the observational procedures, but they prevent us from viewing the direct impact of observation upon learning. Is it the observational method per se which produces any observed differences or is it the observational method plus (for the television and kinescope groups) participation in an experiment?

Chapter 2

METHOD

I. Description of the Independent Variable:

One of the crucial experimental conditions applied in this study is the careful integration of the observational techniques (direct observation, television, or kinescope film) composing the independent variable into the college course syllabus.

The existing syllabus for the course in "Elementary Education: Its Organization, Curriculum, and Methods" was studied and revised two years in advance of the final evaluation phase of this research. The revised syllabus included the same topics as the old, but these were scheduled in such a way as to make possible the study and discussion of each topic just prior to the demonstration lesson which was to exemplify the teaching techniques involved. This syllabus was tested during both semesters of the year preceding evaluation, with sections of the course taught by one instructor who remained in the project and one who did not. Further revisions were made during the summer prior to the first experimental semester, resulting in the syllabus which appears beginning on the next page.

At the top of the second page of the syllabus it is noted that five hours of the earliest segment of the course were devoted to "Content" material. The purpose of teaching such information about "content" will be discussed later in describing the college student characteristics which were controlled in this study.

The remainder of the syllabus is broadly divided into:

"Methodology:" methods of teaching language arts and of providing health instruction in elementary schools, and

"General Principles:" principles of elementary education.

HUNTER COLLEGE OF THE CITY OF NEW YORK

COURSE OUTLINE - ED. 15.330 - Elementary Education: Its Organization Curriculum and Methods I

TEXTS:

(AH) 1. Harris, A.J. How To Increase Reading Ability. New York: David McKay Co., Inc., 1961. Fourth revised edition.
(CD) 2. New York Board of Education. Curriculum Development in the Elementary Schools. New York: The Board, 1955. (Reserve)
(OWC) 3. ______ Oral and Written Communication: Grades 1-6. New York: The Board, 1959. (T.C.L.)
(RL) 4. ______ Reading and Literature in the Language Arts: Grades 1-6. New York: The Board, 1957. (T.C.L.)
(TH) 5. ______ Teaching Handwriting. New York: The Board, 1961. (T.C.L.)
(TS) 6. ______ Teaching Spelling. New York: The Board, 1954. (T.C.L.)
(U) 7. ______ The Unit in Curriculum Development and Instruction. New York: The Board, 1956. (T.C.L.)

SUPPLEMENTARY SOURCES:

(EB) 8. Betts, A.E. Foundations of Reading Instruction. New York: American Book Co., 1957. (Reserve)
(MF) 9. Finocchiaro, M. Teaching English as a Second Language. New York: Harper & Brothers. 1958. (T.C.L.)
(WG) 10. Gray, W.S. On Their Own In Reading. Chicago: Scott, Foresman and Co., 1960.
(LA) 11. New York Board of Education. Course of Study in Language Arts: Grades 1-6. New York: The Board, 1955. (Reserve)
(DCP) 12. ______ Developing Children's Power of Self-Expression Through Writing. New York: The Board, 1953. (T.C.L.)
(HG) 13. ______ Health Guidance in Elementary Schools. New York: The Board, 1955. (T.C.L.)
(HT) 14. ______ Health Teaching in Elementary Schools. New York: The Board, 1956. (T.C.L.)
(MLP) 15. ______ Materials for the Literature Program: Grades 1-6. New York: The Board, 1958. (T.C.L.)
(PP) 16. ______ Planning and Plan Books. New York: The Board, 1961. (T.C.L.)
(TPR) 17. ______ Teaching Children of Puerto Rican Background in N.Y.C. Schools. New York: The Board, 1954. (T.C.L.)
(DISC) 18. Sheviakov, G.V. and Redl, F. Discipline for Today's Children and Youth. Washington, D.C.: Association for Supervision and Curriculum Development, NEA, 1956. (T.C.L.)

Hours 1, 2: Experimental Pre-test
Hours 3, 4, 5, 6, 7: "Content" Material
Hour 9: "Content" Examination

METHODOLOGY

	KNOWLEDGE	SKILL
I.	Language Arts: General — Hour: 8	
A.	What is meant by the "dual nature of language?"	What are the implications for classroom practice?
B.	What are the Language Arts?	
C.	How are the LA's related to each other? AH4-7	
D.	What are the relationships between a child's position in the family and his language development?	How does the teacher use such information in planning her instructional program?
E.	What are the objectives and scope of the LA program in NYC? CD16-19 LA1-14 CMC1-9	
II.	Reading: General — Hour: 8	
A.	What is the nature of reading? AH8-10 (EB74-81)	
B.	What types of reading are there? AH10-14 (EB73-74)	
C.	What are the various methods by which students have been and are being taught to read? AH63-84. 113-121	
III	Reading Readiness — Hours: 10, 11, 12	
A.	What is reading readiness? AH25-26	
B.	What factors affect its development? AH26-42	
C.	What techniques and instruments are available for assessing readiness? AH42-50	How does the teacher assess a student's readiness for reading? AH42-50
D.	What techniques and materials are useful in the development of reading readiness? AH50-62	How does the teacher use them to develop reading readiness? AH50-62
IV.	Basal Reader Approach — Hours: 13-20	
A.	What is it? AH71-74	

METHODOLOGY

KNOWLEDGE	SKILL
B. How is a basal reading series organized? (examination of Scott Foresman series)	
C. What is meant by: vocabulary control, language control, rate of word introduction and repetition? (McKee booklet, "Primer for Parents")	
D. What is the teacher's guidebook and how is it organized? (examination of S F books)	
E. What is the typical lesson plan of a story in a basal reader and what purpose does each step have? AN74-77 (plus examination of S F books)	How does the teacher execute each step of this plan? AN74-77 (plus examination of S F books)
F. What is a workbook? (S F books)	How is it used? (S F books)
G. What is "seatwork"?	How is it used?
H. On what basis does a teacher decide how many reading groups she will have and who will be in which group? AN122-128	How does the teacher test students to see in which group they belong? AN152-167
I. How does Betts define his four levels of reading: basal, instructional, frustration and capacity? EH438-453	
J. How does the teacher arrange the school day to provide for effective instruction in reading? AN134-150	

V. Teaching Word Recognition Skills Hours: 21-25, 29-31

A. What is "word recognition"? AN315-316 EH580-581

*B. What are the various word recognition (word analysis) skills? What are some suggested sequences into which these skills are organized? AN348-350+ chart on 351-353 EH581-593 [illegible]

METHODOLOGY

KNOWLEDGE	SKILL
C. What is a "sight vocabulary"? AH316	How are students helped to develop one? AH316-323 EB595-614
D. What is "phonetic analysis"? AH323-328 EB614-620	What procedures are used for teaching phonics? AH328-338, 355-360 EB635-644
E. What is "structural analysis"? AH339-344 EB644-645	What procedures are used for teaching "structural analysis"? AH339-344 EB650-652, 654-655, 664-667
F. How does a glossary differ from a dictionary?	
G. What skills are necessary for maximum use of a dictionary? AH409-412 EB667-669	What procedures are used for developing skill in dictionary use? EB680-688
H. What is meant by "vocabulary development"? AH396-432	How do teachers help children in developing and extending vocabulary? AH396-432, 458-464
I. What does Harris mean by "special comprehension skills"? AH433-446	What activities does he suggest for developing these skills? AH433-446
J. What are "study skills"? AH446-453	How are students helped to develop them? AH446-453
VI. Experience Approach — Hours 26-28	
A. What is it? What is the rationale behind it? AH77-79	How is it used to teach reading? AH79
B. What is an experience story or record? AH77-79 EB394-405	How is one developed and used? AH77-79 EB405-414
C. What are the values and limitations of the Experience Approach? AH79 EB389-390, 423-427	How can the teacher maximize the values and minimize the limitations? EB389-390, 423-427
VII. Individualized Reading — Hours 32-33	
A. What is it? What is the rationale behind it? AH113-116	

METHODOLOGY

KNOWLEDGE	SKILL
B. What materials and techniques are used in this approach? AH116-118	How does the teacher organize the class for individualized reading? AH114-118 How is this method used for teaching reading? AH114-118, 120-121
C. What is present prevailing judgment about the effectiveness of this approach? AH118-120	
VIII. Children's Literature Hour: 34	
IX. Remediation Hour: 35	
A. What is the distinction between a "retarded reader" and a "reading disability"? AH16-18	
B. What are some of the causes of retardation in reading? AH18-21	
C. How does Harris distinguish between adapted, corrective and remedial reading programs? AH21	
D. What is the distinction between developmental and remedial reading? AH22-23	
X. Listening Hour: 36	
A. What is the nature of listening? OWC10-11	
B. What classroom activities provide opportunities for the use and development of listening skills? OWC12-18	How does the teacher achieve maximum effectiveness in promoting growth in listening ability? OWC12-18 How does the teacher evaluate the children's growth? OWC18 How does the teacher check on a student's hearing ability? EB207-210, 216-219
C. What are the expected outcomes of the listening program? OWC19-21	
D. What techniques and instruments are available for testing hearing? EB207-212	

METHODOLOGY

KNOWLEDGE	SKILL
XI. Speaking Hour: 37	
A. Which classroom activities provide opportunities for use and development of effective oral communication? OWC22-57	How does the teacher organize and conduct: conversation, discussion, story-telling, dramatics, reporting, and memorization? OWC22-57
B. What are the expected outcomes of the program of instruction in speaking? OWC58-62	How does the teacher evaluate progress in oral communication? OWC58-62
XII. Teaching English As a Second Language	Hours: 38, 39
A. What are the objectives and guiding principles for such a program? MF3-7	
B. What factors should be taken into consideration in planning such a program? MF7-14	
C. What are the general dimensions for the teacher's responsibility in this area? MF14-21	What should the teacher be able to do to meet this responsibility? MF65-69
XIII. Written Communication Hour: 40	
A. What is the N.Y.C. program in this area? OWC63-83	How are children taught such functional forms of writing as letters, outlines, etc.? OWC63-83
B. What is the place of "mechanics" and grammar in the elementary school program? OWC84-98	How are students taught proper punctuation, capitalization, correct usage, etc.? OWC84-98
C. What is "creative writing"?	How are students helped to express themselves "creatively"?
(N.B. - Consult item "DCP" for additional material in this area.)	
XIV. Spelling Hour: 41	
A. What are the N.Y.C. objectives for a spelling program? TS1-3, 7-9	

METHODOLOGY

	KNOWLEDGE	SKILL
B.	What are the differences between the "test-study " and the "study-test" methods? TS3-4	How are children taught spelling by both methods? TS3-4, 9-21
C.	On what basis did N.Y.C. select the words included in its spelling program? TS4-5	
D.	What is the scope of the N.Y.C. program in spelling? TS22-44	What is the teacher's role in helping children achieve the goals of this program? TS22-44
E.	What can the teacher do to differentiate instruction in spelling? TS32-37	How does she do it? TS32-37
F.	What techniques and materials are available for evaluating growth in spelling? TS45-77	How does the teacher use these? TS45-77
XV.	Health — Hours: 42, 43	
A.	What is the scope of the health program in N.Y.C.? CD12-14	
B.	What is the teacher's responsibility for "health guidance" in N.Y.C.? HG1-30	
C.	What are the roles of various specialists in health guidance? HG12-30	How do classroom teachers and health specialists work together to guide children to better health? HG1-30
D.	What is the teacher's responsibility for "health teaching" in N.Y.C.? HT1-5	How does the teacher use this responsibility? HT6-10
XVI.	Handwriting — Hours: 44	
A.	What are the objectives and principles of the handwriting program in the elementary schools of N.Y.C? TH1-2	
B.	What is manuscript writing? TH3-4	How is readiness for handwriting developed? TH-4

METHODOLOGY

	KNOWLEDGE	SKILL
C.	What is the functional approach to the teaching of writing? TH5-12	How are the children taught manuscript writing? TH5-12
D.	What is cursive writing? TH13	How is the transition from manuscript to cursive made? TH13-16
E.	What is an accepted technique for writing small and capital letters in cursive writing? TH17-27	How are students taught to make these letters correctly? TH17-27
F.	What techniques and instruments are available for evaluating handwriting? TH27-28	How does the teacher evaluate handwriting? TH27-28
G.	What provisions should be made for meeting individual differences? TH29-33	How does the teacher work with left-handed children? TH29-32

GENERAL PRINCIPLES

	KNOWLEDGE	SKILL
I.	Elementary Curriculum Hour: 45	
A.	What are the aims of education in N.Y.C. (these to be viewed as but one of many possible structures for educational aims)? CD1-2	
B.	What do these aims represent when translated into behavioral outcomes? CD117-124	
C.	What program of instruction does N.Y.C. attempt to provide in order to achieve its objectives? CD7-28	
II.	Planning and Unit Development Hours: 46-51	
A.	What factors should a teacher take into consideration in planning the instructional program for her class? CD42-43	
B.	What is a long-range plan? CD43	How is such a plan made and recorded? CD43
C.	What is a weekly plan? CD 53-58	How does the teacher make and record such a plan? CD53-58
D.	What is a "unit of work"? CD43 U5-22	
E.	What is the place of unit experiences in the total curriculum? CD43-44 U5-22	
F.	How does a "resource unit" differ from a "teaching unit"? CD44-45 U5-22	
G.	What steps are followed in developing a teaching unit? CD45-53 U5-22	How does the teacher plan and carry through a teaching unit? CD45-53 U5-22
H.	What is the function of committee work in a unit? CD46-52 U5-22	How does the teacher teach students to work effectively in committees? CD46-52 U5-22
I.	What techniques are used to evaluate unit work? CD52-53 U5-22	How are these techniques used by teachers and pupils? CD52-53 U5-22

GENERAL PRINCIPLES

	KNOWLEDGE	SKILL
J.	What is "pupil-teacher planning"? CD58-60	How do teachers and pupils plan cooperatively? CD58-60
K.	How does the teacher decide on which experiences (both direct and vicarious) are to be included in her instructional program? CD73-81	How does teacher organize and carry through plans for such experiences? CD73-81

III. Organizing for Learning Hours: 52, 53

	KNOWLEDGE	SKILL
A.	What resources and techniques should the teacher use to orient herself to a new class in a school and community with which she has had no previous contact? CD29-32	Specifically, what does she do to accomplish this orientation? CD29-32
B.	What routines are conducive to successful classroom management? CD33-35	How are they arrived at and taught to the students? CD33-35
C.	What are the characteristics of a wholesome classroom environment? CD35-38	What does the teacher do to build such an environment? CD35-38
D.	What is meant when it is said of a teacher that she has "good discipline" in her room? CD38-41 (DISC1-64)	How does a teacher achieve and maintain "good discipline" in her classroom? CD38-41 (DISC1-64)
E.	How does classroom organization (i.e. working with the whole class, with groups and with individuals) contribute to effective instruction? CD61-67	How does the teacher organize her class for effective learning? CD61-67

IV. Evaluation Hour: 54

	KNOWLEDGE	SKILL
A.	What is the scope of the teacher's responsibility for evaluating the growth of her students? CD102-109	
B.	What materials and techniques are available for the teacher's use in making evaluations? CD102-109	How does she use them to evaluate children's growth? CD102-109

GENERAL PRINCIPLES

	KNOWLEDGE	SKILL
C.	What role do students play in evaluating their own growth? CD109-113	How does the teacher guide students to exercise this function intelligently? CD109-113
D.	What purposes are served by school-wide and system-wide programs of evaluation? CD113-117	How are such evaluations made? How does the teacher use the results of such programs of evaluation? CD113-117

Further subdivisions are:

"Knowledge:" content or subject-matter information, and

"Skill:" application of content information in an on-going instructional program.

A. *The Kinescope Observational Procedure (K):*

Since the traditional program of observation at Hunter College devoted six hours to observation, and since each kinescope had a maximum time limit of 30 minutes (due to the size of the film magazine used by the kinescope recorder), the initial decision was to develop twelve demonstration lessons. This was soon reduced to eleven for two reasons: (a) course content was too extensive to permit twelve observations; and (b) the 60 hours nominally available in this 4-credit course were actually reduced to as few as 54 in most semesters because of college holidays. Experience during the first experimental semester indicated that even eleven observations were too many, so one was eliminated during the second semester.

Topics in the syllabus were then identified which could best be correlated with observations. Some topics, such as "Language Arts: General" and "Reading: General," did not lend themselves to demonstration. Others, such as "Handwriting" and "Spelling" were regarded as less crucial in the entire course. The final selection consisted of:

1. *Reading Readiness*

   Teacher doing reading readiness work with a *first grade class*.

2. *Basal Reader Approach*, Steps I and II

   Teacher preparing the whole class for the "seatwork" they will do while she reads with one group. Teacher reads with the slow group: sets up background for the story, presents new vocabulary, discusses new concepts and does part of the guided silent reading. (*Grades III-IV*).

3. Basal Reader Approach, Steps III and IV

Teacher doing "extension of skills" step, with or without workbooks, and "extension of interest" step -- all with a fast group -- while rest of class is engaged in independent "seat work" activities. (Grades III - VI).

4. Experience Approach

Teacher creating a "reading type" or "skill type" experience chart with all or part of a first grade class.

5. Individualized Reading

Teacher preparing whole class for individualized reading period. Teacher reading with one child. Teacher checking with whole class to pull learnings together and to see whether small groups need to be formed for help on special reading problems. (Grades III - VI).

6. Diagnosis of Reading Difficulties

   a. Regular classroom teacher giving informal textbook test to one child, while rest of class works on independent activities. (10 minutes) (This segment exists only in the E version of this lesson.)

   b. Clinician conducting a reading diagnosis with one child. (20 minutes)

7. Remediation of Reading Difficulties

Clinician analyzing results of diagnosis (see #6b) and providing remedial help to the child.

8. Teaching English as a Second Language

Teacher doing a language emphasis lesson with a small group of Spanish-speaking children, while rest of class is engaged in independent activities. (Grades III - VI).

9. Health (eliminated during the second experimental semester)

Teacher giving health instruction. OR

Teacher engaged in health inventory activities: measuring height, weight and vision and checking on health status of the students OR

Teacher teaching a game or folk dance, in the classroom, in "directed physical activities" program. (Grades I - VI).

10. The Unit: Initiation

Teacher initiating a new unit (in social studies, science or health), having the problem identified and stated, and beginning the organization of committees. (Grades IV - VI).

11. The Unit: Committee Reports

Unit committee(s) making its (their) final report(s) to the class. (Grades IV - VI).

Various assistant superintendents and elementary school principals in New York City (with whom Hunter College already had professional relationships) were invited to take part in the project by permitting elementary school teachers and their classes to come to the college and record lessons. The invitation was accepted by three assistant superintendents, one of whom provided most of the "kinescope" teachers plus the services of all the curriculum consultants in that district.

A member of the project staff (one of the two instructors) met with principals and consultants to discuss the demonstration lessons. Teacher volunteers were brought to the college to see for themselves what was involved in kinescoping lessons. A number of teachers agreed to take part in the project on the condition that they could veto the use of any kinescope which did not meet with their approval. Similar veto power was extended to principals and assistant superintendents. Teachers were shown their completed kinescopes alone or in the presence of any consultants or administrator they wished to have present. If the teachers approved, the films were then shown to the administrators. (Only the very first few kinescopes resulted in any veto problems. This was due to some uncomplimentary images of the teacher caused by the placement of cameras. This was immediately adjusted for subsequent recording.)

Prior to each demonstration lesson the college instructor met with the teachers and the curriculum consultants to discuss and plan the lessons. This meeting took place at the teacher's school, giving the instructor an opportunity to observe the teacher instructing her class.

All the kinescopes used in the project were recorded in six rooms in the Hunter College Elementary School (HCES). These six rooms had been equipped for closed-circuit broadcasting. Although these rooms were in regular use by HCES classes, the principal made arrangements to vacate these rooms whenever the project requested him to do so.

Demonstration teachers and classes were transported to the college and, once in the HCES classroom, children and teacher were oriented to the equipment in the room and shown how the cameras and microphones operated. The cameras were "panned," "tilted" and "zoomed" to familiarize the children with these movements and to attempt to obviate the problem of having them "play up" to the cameras once the lesson was in progress. The children always accepted the whole situation very rapidly; the more mature teachers seemed generally more apprehensive and less at ease than the younger teachers. Since the project deliberately aimed at recording representative, rather than exceptional or outstanding lessons, most of the kinescopes were made by younger teachers. This decision was not based on the fact that the younger teachers seemed less apprehensive, but on the desire to have the college students identify themselves with teachers nearer their own age and with limited teaching experience.

Thirty-three lessons, conducted by New York City public school teachers, were kinescoped. An additional twenty were made by HCES teachers. Also, three kinescopes were made by a member of the Hunter College Educational Clinic (depicting reading diagnosis and remediation), one was made by a member of the Speech Department, (who gave a lesson in choral speaking to a fourth-grade

HCES class), and one was made by a handwriting consultant from a firm which specialized in penmanship materials.

The thirty-three public school kinescopes were all approved for use by teachers and administrators and were then reviewed by the curriculum consultants and college instructor. Some were eliminated for reasons of poor technical quality due largely to inadequate audio coverage. Others were eliminated for reasons of duplication. Nine were finally selected for use in the project. The remaining two of the eleven kinescopes were selected from the three made by the Hunter College Educational Clinic staff member.

The initial plan for kinescope production called for the Hunter College Elementary School teachers to provide the project with the kinescopes depicting the "unit" method of teaching. Lessons in this area, taught by New York City teachers, were also recorded. These turned out to be technically superior to those made by the HCES teachers, due to the inconsistency of performance by the kinescope recorder. Since the "unit" kinescopes were made using classes of intellectually gifted children, these were regarded as adequate substitutes for the technically inferior recordings of gifted HCES classes.

The final eleven kinescopes were carefully edited to eliminate a number of technical flaws in video quality, titles were added and two finished prints of each lesson were processed for use by the two instructors in the project. The second instructor, who joined the project staff the summer prior to the first experimental semester, assisted in the selection and editing process and reviewed the kinescopes a number of times before using them the very next semester.

B. The Television Observational Procedure (TV):

While the production of kinescopes was in progress, the television installation underwent a complete overhauling. A portion of this process involved the construction of a studio room, complete with special carpeting, acoustical drapes and tiles, and special wall brackets for the four cameras to be used in closed-circuit broadcasting. (Only three cameras had been used in recording the kinescopes in the six HCES classrooms mentioned above. Both the professional and the technical staff in the project had become convinced that four cameras, two in the front and two in the rear, were necessary for total coverage of classroom activities.) A two-way inter-communication system between studio and control room was also installed to provide voice contact between demonstrating teachers and technical staff. This studio was used for nine of the eleven observational lessons relayed each semester to the college classes using the TV observational procedure.

Again there were consultations with New York City elementary principals regarding cooperation in this phase of the project. One school was selected to provide all the TV teachers for the seven lessons which were to be supplied by public school teachers. A single school was chosen because of its staff's enthusiasm and to lighten administrative demands. This public school had not been involved in the kinescoped lessons, but had a school population similar to those whose children and teachers had been recorded. Of the remaining four lessons, two were supplied by the Hunter College Educational Clinic -- reading diagnosis and reading remediation, and two -- unit initiation and unit committee reports -- were provided by the HCES staff.

The principal and staff of the public school were given the descriptions of the lessons as they appear in the list included earlier in this discussion,

In advance of the first TV lesson, the college instructor (who had conferred with the professional personnel in producing the K lessons) discussed the project with the principal and assistant principal. In addition, this instructor met individually with each of the seven teachers who were to come to the college with their pupils during the first experimental semester. During each of these meetings the nature and purpose of the lesson were discussed as well as such related details as instructional equipment to be used in the lesson. These meetings were discontinued during the second experimental semester because both the administration and all instructional personnel at the school had by then become thoroughly familiar with the demands of the situation. There was no overlap between the two groups of seven teachers each who provided the TV lessons during the two experimental semesters.

Under all three observational procedures, the two demonstration lessons provided by the Educational Clinic (reading diagnosis and remediation) involved only a clinician and a single child. In each case, of course, the same child was used both for the diagnosis and remediation lessons. The children were obtained from neighboring public schools and each represented serious remedial problems. The reasons for including two such lessons in the observational program was to demonstrate to prospective elementary teachers the role of the reading specialist in the total reading program and to contrast this role with the developmental and corrective reading role of the regular classroom teacher. During both the _K_ and _TV_ versions of these lessons, special technical arrangements made the material being used by both clinician and child visible to the viewing college students. The close-up views were large enough to permit students to read the materials being used. The _DO_ observers lacked this advantage. Even if each one could have received copies of the materials, they could not have consulted them: they sat in almost total darkness and the rustling of the papers could have been heard by the child. However, during the discussion of these two clinic observations, the materials were exhibited and described in some detail.

The two HCES teachers who provided the _TV_ lessons on the "units" taught in their own classrooms, their rooms being part of the closed-circuit system. Planning for these lessons followed the procedures used with public school teachers. The teachers were free to initiate a unit in any subject area and to demonstrate the presentation of committee reports by the children. The K initiations were in the area of social studies, as were all the lessons demonstrating committee reports.

C. The Direct Observation Procedure (DO):

Three additional New York City elementary schools, not previously involved in any phase of the project, volunteered to provide the seven direct observation lessons mentioned earlier, the remaining four again being the responsibility of the Hunter College Educational Clinic and Hunter College Elementary School. One of the public schools provided only one lesson each semester (that concerned with Individualized Reading) because the other two schools lacked this program.

All three public schools were located within 20 minutes traveling time of the college. All DO sections of the course met mornings twice a week during the time periods 9:10-10:00 and 10:10-11:00. In order to maintain the 100 minutes of class time available to TV and K sections who did no traveling, the following special schedule was set up for DO classes on the days when observations were made at public schools:

9:00-9:30 --- Regular college class lecture and discussion at the public school.
9:30-10:00 -- Observation of elementary school classes.
10:00-10:20 -- Travel time to college.
10:20-11:00 -- Discussion of observation and continuation of lecture and discussion on topics in the syllabus.

Thus, of the 120 minutes, 20 were used for travel time leaving 100 minutes, matching the time used for observation by TV and K classes.

The four DO observations made at the Educational Clinic and at HCES involved no traveling time, both units being on the college campus.

Observations at the Educational Clinic were made using two rooms separated by a one-way-vision mirror. Microphones carried the voices of clinician and child to the observers. The instructor and class were all assembled in one of the rooms, thus they all saw and heard the same lesson.

During the remaining *DO* observations, all students did not observe the same class. Both in the public schools and at HCES each *DO* class was divided in half, each half seeing a lesson comparable to the other both in content and grade level. A given half of the class was accompanied by its instructor on alternate observations.

The descriptions of the observations noted earlier were also given to the administrators and teachers, as under the *TV* procedure. HCES teachers and the clinician were communicated with personally. However, whereas under the *TV* procedure, the project staff instructor had been in direct touch (at least during the first experimental semester) with the classroom teacher, no such contacts were made during *DO*. This was done so as to duplicate the procedure normally used in such direct observation in this course, where communication takes place only between instructor and principal. Had direct consultation between instructor and teacher been employed, the results of this study could not have been generalized to fit the practice under which observation in public schools usually takes place.

D. Elements Common to All Three Observational Procedures:

1. All observed lessons had a maximum duration of 30 minutes. Though this limit was not exceeded, teachers under all procedures could terminate lessons short of the 30-minute interval whenever the plan for the lesson had been accomplished. In practice, lessons lasted from 20 to 30 minutes, those with young children being the shortest.

2. Lessons in a given subject area were conducted either with classes at exactly the same grade level or at contiguous levels.

3. *TV* teachers did not teach more than one lesson each over the span of both experimental semesters. A few *DO* teachers did teach during both semesters.

Obviously, the same kinescopes were used in both semesters, but here again, each kinescope was of a different teacher.

4. All public schools used had very comparable pupil populations, representative of Manhattan, New York City, except for the school which provided the DO lessons in Individualized Reading. Both the DO and K versions of the Individualized Reading Lesson were made with classes of above average ability; the TV version was made with an average class, but with a teacher highly experienced in this mode of teaching reading.

5. One of the crucial experimental conditions in this study is the effort to use all observational procedures in maximal fashion, within feasible limits. As explained earlier, the length of each lesson was artificially limited by the size of the reel of film in the kinescope recorder and each observation was thus restricted to a maximum of 30 minutes. However, under the TV procedure the instructor was permitted to turn down the audio volume and make comments while his class continued to observe the video on the two screens; he could call the control room (via the local telephone system) and ask for particular views of the class-rooms not being provided by the director in the control room and could also direct the attention of his class to particular segments of either screen whenever he felt that this would enhance the observation.

Under K condition, the instructor was permitted to stop the kinescope at any point for comments and clarification. However, he could not replay any portion of the film since this would have extended time beyond the 30-minute limit. The volume could also be turned down for comments.

By contrast, each DO observation involved two different elementary classes, except in the observations made at the Educational Clinic. This gave the instructor two lessons on which to comment, although he had to rely on the students' descriptions of the lesson which one-half the class had observed.

6. The decision was made that discussions of observations should have a time limit of 20 minutes. This, added to the usual 30 minutes of observation, would mean the consumption of a college period of 50 minutes for the combination of observation and discussion. This schedule was followed during the first semester. In assessing the validity of procedures during the intersession period, both instructors indicated that the students had generally pressed for longer discussions of each observation. Therefore, discussions during the second semester were not bound by artificial time limits, each instructor continuing discussions so long as they were fruitful, keeping in mind the obligation to deal with all the material in the syllabus.

II. Definition and Measurement of Dependent Variables:

To determine the relative effectiveness of the three observational conditions, two dependent variables were employed: (1) information about methods of teaching, and (2) ability to analyze and evaluate an observed elementary-school lesson. The information variable was measured through an objective "Methodology" examination, and the critical evaluation variable was measured through a "Lesson Evaluation" essay examination.

A. The "Methodology" Examination:

The final form of this 120 item, four-option, multiple-choice examination (with associated item analysis data) is presented in Appendix A. From an original pool of 190 items, the pre-tests and revisions described in Table I were conducted. Item difficulty and discrimination were assessed for each administration.

Table I

Pre-test and Revision of Methodology Examination

Date	Number of S's	Type of Use	Total No. of Items Tested	Items Retained	Items Revised	Items Rejected
9/61	77	Pre-measure	152	63	70	19
1/62	77	Post-measure	138	49	42	47
2/62	186	Pre-measure	121	81	32	8
6/62	53	Post-measure	115	88	26	1

The questions retained in the final form are in the same sequence as the topics in the syllabus and the number of questions on a given topic is generally in proportion to the amount of time devoted in the course to that topic. Questions covered all topics in the syllabus except Health and Children's Literature. The single class hour on Children's Literature was no more than an introduction to a field of substantial dimensions, the prime purpose being to alert the students to the place of this literature in the elementary reading program. The topic was treated too generally to merit structuring objective questions for use in the examination. Although two class hours were devoted to Health, examination of the syllabus will indicate that the level of treatment was superficial, due largely to the fact that all these students would later attend a 2-credit, 3-semester hour course in this same area. The New York City curriculum in Health Instruction is organized on a unit basis; the unit structure of this subject was used to exemplify unit work in the "General Principles" of the syllabus. Thus, indirectly at least, there were questions based on these two hours of instruction, but they dealt with units and unit structure rather than with Health itself.

In obtaining Methodology (M) Scores, correction for guessing was used throughout; consequently students were advised not to guess wildly.

In applying the Methodology examination in its final form during the evaluation phase of this study, we assumed that students would differ in advance of exposure to the course in (1) general skill in responding to objective multiple-choice items, and (2) degree of prior information about methods of teaching. Consequently, both pre- and post-measures were obtained, and the score used for each *S* in the statistical analysis represents the difference between pre- and post-test. As a pre-measure, the Methodology exam was administered during the first two-hour meeting of the semester; as a post-measure, it was given as one part of the final examination.

At least two factors often militate against using pre-post difference scores: practice effects and the unreliabilities of the tests. However, practice effects in this study did not appear great due to the fact that a 16-week period elapsed between pre- and post-test, and the students, taking the pre-measure in possession of very limited information about teaching methodology, were unable to retain a recollection of the item content. In addition, the Kuder-Richardson (Formula No. 20) reliability coefficients presented in Table 2 seemed sufficiently high to allow the use of a difference measure in obtaining an estimate of the degree of information about teaching methodology gained during the course of the semester. It was, of course, expected that the reliabilities of the pre-measure would be considerably lower than the post-measure.

Table 2

Means, Standard Deviations and Kuder-Richardson (Formula No. 20) Reliability Coefficients for Pre- and Post-Measures of the Methodology Examination

	Mean	Standard Deviation	Kuder-Richardson Reliability Coefficients
Semester 1:			
Pre-test	8.76	6.75	.57
Post-test	47.96	11.98	.88
Semester 2:			
Pre-test	8.14	6.75	.59
Post-test	50.45	12.42	.85

The data presented in Table 2 also indicate that the Methodology examination revealed significant gains in information from the beginning to the end of the semester. The differences between pre- and post-measures was significant beyond the .01 level of confidence for both semesters (t = 34.09, 33.45 for semesters 1 and 2, respectively). If no such overall gains had occurred during each semester, it would be less likely that the observational conditions would differ in the amount of gain they bring.

B. The "Lesson Evaluation" Measure:

The essay examination designed to measure the ability to critically analyze and evaluate an observed lesson was administered as a second portion of the final course examination. An essay form was selected to elicit the students' ability to apply and integrate material about teaching methods in the critical assessment of classroom performance.

No pre-measure was obtained at the beginning of the evaluation semesters because: (1) class time in each semester was in very short supply (in fact, one of the observations had been eliminated in the second experimental term for lack of time) and (2) the evaluations of two different lessons are not strictly comparable because each presents the observer with different phenomena for analysis.

To provide all students in a given semester with the same lesson for analysis, the following procedure was used:

1. A Hunter College Elementary School teacher and class whom none of the students had ever observed were selected.

2. The subject matter of the lesson was in the field of language arts (the interpretation of poetry), but did not duplicate the content of any of the observations in the course. The lesson was planned jointly by the two college instructors and the HCES teacher.

3. The lesson was taught in the college studio room described previously. This room is almost twice normal classroom size, being in effect a miniature auditorium with banked rows of seats in the rear in addition to floor space for a regulation-size classroom. The two *DO* sections (in a given semester) occupied these rear seats and observed the lesson in person.

4. Simultaneously the closed-circuit television system (four cameras and five microphones) picked up the video and audio signals. The two *TV* sections occupied their regular college classrooms and received two views of the lesson on their two television screens, following the pattern of observation they had used during the course.

5. The two *K* sections were in other college rooms, receiving just one image of the class on one screen, the image that was actually being recorded on videotape. Except for the difference in size between the 24" television screen and the normal 30" X 30" screen used in projecting kinescopes, these

K classes were thus observing the lesson via their unique method of observation.

6. The college instructor, who had played a major role in the creation of the kinescopes, was in the control room directing the technical staff and selecting for both TV and K classes the respective views they received.

7. The lesson lasted 30 minutes, making it comparable to the lessons observed during the course.

8. Following the observation each student was required to analyse the lesson by writing an essay in the 45 minutes. The questions asked at the end of the first experimental semester were:

Evaluation of a Language Arts Lesson

I. A. What do you think the aim(s) of this lesson was (were)? 10%

B. DESCRIBE the manner in which the teacher communicated (if indeed she did) the aim(s) to her pupils. 10%

II. EVALUATE this lesson by stating and discussing both its acceptable and unacceptable aspects, indicating the reasons for your judgments. 50%

III. What else do you wish to say about this lesson in addition to what you have already said? 30%

The responses to Question I-B were generally at a tangent to the project's expectations. The word "manner" may not have stimulated students to be specific. The wording of I-B was, therefore, changed; second semester responses indicated that this change was effective in focusing student efforts on the issue involved.

Question III was originally intended to give students freedom to comment on the lesson in a completely unstructured manner. However, most students had little to add once they had given proper attention to Question II. The question was therefore eliminated. For the second semester, Question II was broken into two parts to simplify the reading and scoring of the papers.

Thus, the questions asked at the end of the second experimental semester were:

Evaluation of a Language Arts Lesson

I. A. What do you think the aim(s) of this lesson was (were)?

B. DESCRIBE what the teacher did or said which leads you to identify the aim or aims you enumerated under I-A above.

(NOTE: All of Question I is worth 25%.)

II. A. EVALUATE this lesson by stating and discussing its acceptable aspects, indicating the reasons for your judgments.

B. EVALUATE this lesson by stating and discussing its unacceptable aspects, indicating the reasons for your judgments.

(NOTE: All of Question II is worth 75%)

The percentage-values for each question were included merely as guides for the proper distribution of student time. Both examinations were actually scored on a 40-point scale.

The following procedure was used for scoring the "Lesson Evaluation" papers:

a. A non-instructional member of the project staff coded all papers. The papers were shuffled to reduce any possibility of identifying papers with particular students or observational groups.

b. The two instructors and another member of the project staff reviewed the videotape that had been made of the lesson and discussed its merits in the light of the questions the students had answered. No attempt was made at this point to obtain unanimity of views among these three people.

c. Fifteen student papers were selected at random and read jointly by the two instructors. To provide a basis for the initial form of the scoring key, the responses of these fifteen students to each question were listed generally verbatim, except for obvious duplications.

d. Each response so listed was assigned a point-value, based on a maximum total score of 40 points.

e. After all three raters had discussed this preliminary key and clarified ambiguities in it, an additional 20 papers were selected at random and scored independently by the three raters.

f. Inter-rater reliabilities among the three raters were calculated. Two raters (NS and GKD) were the instructors who each taught three sections of the college course, the third rater (PIF) was familiar with teaching methodology. Table 3 presents the inter-rater reliability (Spearman rank-order correlation coefficients) based upon the scoring of 20 protocols for each semester.

Table 3

Interjudge Scoring Reliability Coefficients

for the "Lesson Evaluation" Measure

	Semester 1	Semester 2
Judges:		
NS vs. GKD	.84	.91
NS vs. PIF	.83	.76
GKD vs. PIF	.62	.73

While these reliability coefficients are not ideal, they appear satisfactory for the scoring of a relatively unstructured essay examination; correlations between the two primary raters (NS and GKD) reflect an acceptable level of inter-rater consistency.

g. The 20 papers used in inter-rater computations were not reread. Their scores were computed by using the median of the three scores assigned by the raters. The 15 papers used to create the key were pooled with all the remaining 109 papers. These 124 papers were then randomly divided in half, with each college instructor (MS and GKD) rating his set of 62 independently.

Descriptions of the test lessons and the scoring keys used during the second semester are presented in Appendix B.

It is apparent that this "Lesson Evaluation" (*LE*) technique for measuring critical analysis skills contained possible confounding of the experimental observational conditions and the testing conditions. The advantages of a given observational technique for training may be confounded with the possible advantages of that technique in the testing situation. The decision to make testing conditions comparable to the observational conditions was based upon the need to have all observation groups comparable in their familiarity with the conditions in which testing was conducted. Had the testing situation been structured in any single form for all groups, the experimental group accustomed to that particular mode of observation would have been favored by its prior practice. Consequently, it was decided to equalize the effects of prior practice by testing each group by means of its customary observational arrangement. This issue will be discussed in detail in interpreting the results of this study.

C. Relationship between "Methodology" and "Lesson Evaluation" Measures:

The "Methodology" and "Lesson Evaluation" measures were designed to measure different dependent variables (information and critical evaluation, respectively) and were presented in different test forms (multiple-choice and essay, respectively). However, there is reason to expect that these measures may not indeed represent independent variables; logically, the critical analysis measure may depend at least in part on the amount of objective information about teaching methods which the student has acquired. The Pearson product-moment correlation coefficient between *M* and *LE* measures (N = 288) is + .011 which is statistically non-significant. This indicates that the two measures share very little common variance and apparently do measure independent skills.

D. Subjects:

Subjects were drawn from a total of twelve sections (six in each of two successive semesters) of the course entitled "Elementary Education: Its Organization, Curriculum, and Methods." Enrollments ranged from 24-28 per section; for statistical purposes, sections were equalized in size at 24 S's per section by randomly eliminating the results of the necessary number of S's from the larger sections. Data analyses proceeded, therefore, with a total sample of 288 S's.

All S's were female students enrolled in the undergraduate teacher training program at the Manhattan campus of Hunter College of the City University of New York, a four-year liberal arts college where the students pay no tuition. Almost all students in the study were in their junior year, having completed courses in philosophical issues in education, child development, and educational psychology but having had no actual practice-teaching experience in the classroom. All S's were non-volunteers, being forced to complete the course to meet college requirements. Ages of the S's ranged from 18 to 36 years, with a median age of 19 years 8 months.

During each of the two semesters, S's were randomly assigned during the registration period to one of the six sections. Each of two college instructors taught three sections (DO, TV, and K) each semester and random assignment was further assured by postponing the assignment of instructors to sections until after registration was completed. The two sections for each observational condition met simultaneously; each instructor was assigned one of the two sections for each observational condition, the choice of section was again based on random assignment. These procedures avoided the bias related to the student selection of instructor; no such selection was permitted.

The effectiveness of these random assignment procedures is reflected in the following facts: (1) the six sections each semester did not differ in their cumulative grade indices (a measure of post academic performance); F-ratios among the six sections were 0.94 and 0.43 for the two semesters respectively (degrees of freedom being 5 and 138), (2) the six sections each semester did not differ in their pre-test scores on the Methodology examination; F-ratios among the six sections were 1.58 and 1.08 for the two semesters (degrees of freedom being 5 and 138). Thus, sections did not differ significantly on measures of previous academic performance and initial knowledge of teaching methods.

Another potential initial difference among the students in the various sections is the degree of knowledge of language structure and usage which is basic to the learning of methods of language arts instruction. Control of this variable was achieved by bringing all S's to a minimum level of proficiency. This was achieved as follows.

The prospective elementary school teacher generally comes to methods courses without college-level preparation in the subject matter she is later to teach to elementary school children. The assumption has been that her own elementry and high school education should have given her sufficient subject-matter background; in actual practice, this turns out to be a very poor assumption.

This is especially true in the field of reading. The prevailing approach in teaching reading stresses the inclusion of phonics. Basal readers contain various phonic generalizations along with suggested procedures for teaching these generalizations to children. Theoretically, a methods course should focus on these instructional procedures. In practice, instructors find they must also focus on the language generalizations first, devoting time to "content" in addition to method.

The "content" material (included in Appendix C) was collected and organized. This material ought not to be viewed as a definitive collection of phonic definitions and generalizations but as a preliminary effort at meeting a particular deficiency in the preparation of college students. Its inclusion had the purpose of producing a minimum competency in all students and followed this pattern:

The "content" material was distributed to each student at the end of the first double hour of the term when she had completed the pre-test in methodology. The instructions were to study half of the material and to prepare examples of definitions and generalizations, and any questions that might have arisen. As the syllabus indicates, class hours 3-7 were devoted to this material. This was followed by the administration of a 44-item, multiple choice examination on this material. Students were expected to attain a minimum level of competence, as demonstrated by the test score. Those who did not were required to attend special practice sessions on their own time and to take the same test again until a minimum competency was displayed.

Pre-tests and revisions of this test instrument are summarized in Table 4. Appendix D contains the final version of the content examination and associated item analysis data.

Table 4

Pre-test and Revision of Content Examination

Date	Number of S's	Type of Use	Total No. of Items Tested	Items Retained	Items Revised	Items Rejected
9/61	238	Pre-measure	44	27	14	3
1/62	77	Post-measure	44	44	0	0
2/62	186	Pre-measure	44	38	6	0
6/62	53	Post-measure	44	44	0	0

Kuder-Richardson (Formula No. 20) reliability coefficients were .80 and .76 for semesters 1 and 2, respectively.

Chapter 3

RESULTS

To test the hypothesis that different techniques of observing classroom lessons will result in different degrees of learning by teachers in training, a 3 x 2 x 2 x 2 analysis of variance design (completely balanced randomized blocks) was employed. This analysis contained three observational conditions, two instructors, two categories of scholastic ability among the students, all over two semesters.

The effects of the three observational conditions provided the primary test of the hypothesis and those conditions were described in detail earlier. To examine the effects of instructor differences, each of two instructors taught a *DO*, *TV*, and a *K* section during each of the two semesters. The male college instructor (labelled *A* in the data analysis) has been a teacher and administrator at all educational levels from elementary-school through college; he has taught the course in methods of teaching for several years preceding this project. The female college instructor (labelled *B* in data analysis) has taught elementary-school classes for many years; she was teaching the course in methods of education for the first time as part of this project.

The scholastic ability variable was included on the basis of the previous indications (e.gs., Abel, 1960; Gropper and Lumsdaine, 1961; Rumford, 1962) that students of different levels of scholastic ability respond differently to various observational procedures. Several criteria of scholastic ability were available (e.g., College Entrance Examination Board Achievement Test scores, High School grade average, and college cumulative grade index). Intercorrelations among these scores were so low (ranging from -.17 to +.34) that instead of a weighted composite score, the single criterion of college cumulative grade index was selected as the most relevant single measure. Each section of 24 students was dichotomized for cumulative index; these represented the above and below the median "scholastic ability" groups.

Table 5 presents the means and standard deviations of the Methodology scores (pre-post difference scores on the objective, multiple-choice methodology exam) for the 24 subgroups, 3 observational groups by 2 instructors by 2 scholastic ability groups by 2 semesters. Each cell contains 12 subjects, totalling 288 S's for all subgroups combined. Bartlett's test for homogeneity of variance indicated that analysis of variance was not inappropriate for these data.

Table 6 presents the results of the analysis of variance using the Methodology examination as a dependent variable. These results do not confirm our hypothesis of the differential impacts of the observational conditions (F=0.04, not significant). The significant interaction C x S (F=4.57, $p<.05$) indicates the importance of replication over two semesters; the sequence during the first semester (TV > DO > K) is reversed during the second semester (K > DO > TV). The overall effect of Observational Conditions over both semesters is, therefore, non-significant.

However, other findings in Table 6 do suggest that the Methodology examination difference score is sufficiently sensitive to vary with several other experimental treatments. Instructors differed significantly (F=15.87, $p<.01$), above median students in scholastic ability performed significantly better than below median students (F=21.08, $p<.01$), and second semester students showed greater gains in learning than first semester students (F=5.94, $p<.01$). The significant I x S interaction indicates that the semester differences were greater for one instructor than the other (F=6.89, $p<.01$) while the significant SA x S interaction shows that the overall differential between above and below median scholastic ability groups was greater during the second than the first semester. These results, of limited substantive

Table 5

Mean Methodology Examination Scores for Three Observational Conditions, Two Instructors, and Two Scholastic Ability Groups over Two Semesters

Instructors	Scholastic Ability	Observational Conditions						Total for All Instructors and Scholastic Ability Groups
		Direct Observation		Television		Kinescope		
		Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	
A	Above Median	45.00* 8.66	45.17 12.25	39.67 7.91	40.67 12.25	37.50 11.75	41.50 13.88	41.58 11.22
	Below Median	36.83 10.83	34.92 10.16	38.75 10.41	30.17 10.83	33.00 11.83	36.83 8.66	35.08 10.87
B	Above Median	41.25 10.50	50.67 8.83	41.50 10.66	47.67 13.24	40.17 12.25	57.58 9.00	46.47 10.87
	Below Median	36.00 14.66	37.67 9.66	45.50 10.66	42.25 13.41	37.17 7.75	46.08 7.41	40.78 11.68
Total for All Observational Conditions and Semesters		39.77 11.92	42.10 11.96	41.35 10.30	40.19 13.98	36.96 11.29	45.50 12.04	
Total for Observational Conditions		40.94 12.01		40.77 12.28		41.23 12.44		

*Means are presented above, standard deviations below.

Table 6

Analysis of Variance of Methodology Examination Scores for Three Observational Conditions, Two Instructors, and Two Scholastic Ability Groups over Two Semesters

Source	SS	df	MS	F
Observational Conditions (C)	10	2	5	0.04
Instructors (I)	2,016	1	2,016	15.87**
Scholastic Ability (SA)	2,677	1	2,677	21.08**
Semesters (S)	754	1	754	5.94**
C x I	706	2	353	2.78
C x SA	428	2	214	1.69
C x S	1,162	2	581	4.57*
I x SA	13	1	13	0.10
I x S	875	1	875	6.89**
SA x S	703	1	703	5.54*
C x I x SA	176	2	88	0.69
C x I x S	49	2	25	0.20
C x SA x S	93	2	47	0.37
I x SA x S	94	1	94	0.74
C x I x SA x S	61	2	31	0.24
Within-Cells	33,527	264	127.00	
Total	43,344	287		

*,** $p < .05$, .01, respectively.

importance, attest to the responsiveness of the Methodology measure to treatment differences.

The analysis of the Lesson Evaluation scores varied slightly from the Methodology score analysis. While the lessons used to test Lesson Evaluation at the end of each semester used the same class and teacher and dealt with a similar topic (the interpretation of poetry), it was not possible to make the lessons identical. Therefore, any semester differences would confound student learning effects with lesson dissimilarity and would be uninterpretable. Consequently, Lesson Evaluation scores for each semester were transformed to T-score equivalents (mean of 50, standard deviation of 10) and the T-scores pooled in a single analysis eliminating semester effects. Thus, the 3 x 2 x 2 x 2 analysis of variance conducted on the Methodology data is reduced to a 3 x 2 x 2 analysis of variance for Lesson Evaluation data. The means and standard deviations of the Lesson Evaluation measure for 12 subgroups, 3 observational groups by 2 instructors by 2 scholastic ability groups, are presented in Table 7.

Table 8 presents the results of the analysis of variance using the Lesson Evaluation measure as the dependent variable. The significant Observational Conditions effect ($F=10.67$, $p<.01$) confirms the prediction that the different observational techniques will produce different effects upon learning and, specifically, that kinescope observation will be superior to television observation which, in turn, will be superior to direct observation. The fact that the Lesson Evaluation results confirm the hypothesis while the Methodology results do not will be discussed later.

Other findings regarding critical evaluation skills appear in Table 8. As with the Methodology findings the Instructors differ significantly ($F=6.87$, $p<.05$), with Instructor B's students surpassing Instructor A's, and, once again, the students with better previous scholastic performance surpass the

Table 7

Mean Lesson Evaluation Scores for Three Observational Conditions, Two Instructors, and Two Scholastic Ability Groups

Instructors	Scholastic Ability	Observational Conditions			Total for All Instructors and Scholastic Ability Groups
		Direct Observation	Television	Kinescope	
A	Above Median	46.92* 10.84	49.04 9.13	51.71 11.76	49.22 10.81
	Below Median	42.79 9.97	48.25 10.80	51.46 9.22	47.50 10.65
B	Above Median	51.42 8.42	54.50 8.88	56.83 7.34	54.25 8.53
	Below Median	45.67 10.30	47.08 9.72	52.67 9.26	48.47 10.23
Total for Observational Conditions		46.70 10.38	49.72 10.06	53.17 9.74	

*Means appear above, standard deviations below.

Table 8

Analysis of Variance of Lesson Evaluation Scores for Three Observational Conditions, Two Instructors and Two Scholastic Ability Groups

Source	SS	df	MS	F
Observational Condition (C)	2,012	2	1,006	10.67**
Instructors (I)	648	1	648	6.87**
Scholastic Ability (SA)	1,012	1	1,012	10.73**
C x I	28	2	14	0.15
C x SA	94	2	47	0.50
I x SA	297	1	297	3.15
C x I x SA	1,147	2	574	6.09**
Within-Cells	26,030	276	94.31	
Total	31,268	287		

*,**$p < .05, < .01$, respectively.

below median group. The significant second order interaction C x I x SA reflects an interesting variation in the differential impact of the two instructors when employing different observational techniques with students of different scholastic ability. Reference to the means reported in Table 7 indicates that for both instructors, below median *DO* students were lowest and above median *K* students were highest. However, beyond this shared result, Instructor A's students show that:

Below median *TV* > Above median *DO* and
Below median *K* > Above median *TV*

In contrast, Instructor B's students show that:

Above median *DO* > Below median *TV* and
Above median *TV* > Below median *K*.

Thus, for both instructors, the effects of observational condition and scholastic ability combine to produce an identical result, i.e., below median *DO* are poorest of the six groups and above average *K* are the best. But then a departure occurs. For Instructor A, the effect of the observational condition apparently outweighs the scholastic ability of his students while for Instructor B the scholastic ability variable outweighs observational condition advantages.

Chapter 4

INTERPRETATION

Measures of two dependent variables were used to test the hypothesis that kinescope recordings will provide a more effective medium of observation than closed-circuit television which will, in turn, be more effective than direct observation in the classroom. One measure of the students' response to these observational techniques, an objective multiple-choice measure of information about methods of teaching, failed to confirm the hypothesis but did show systematic variation with several other experimental variables. The other measure, an essay examination assessing ability to critically evaluate an observed classroom lesson, revealed strong confirmation of the hypothesis. A primary question for interpretation is: why did these measures yield dissimilar results? Several alternative explanations will be considered.

1. Although the critical analysis of a lesson might be expected to depend to some degree, at least, on the amount of objective information the student has accumulated about teaching methodology, the correlation between the two measures was actually non-significant, suggesting that different skills were being measured. Careful study of the Methodology examination indicates that well over 75% of the objective questions can be answered on the basis of material gleaned from readings and lectures. The remaining items are based on material which can be exemplified by demonstration lessons, but which might also be handled successfully by students who give proper attention to readings and lectures. The fact that scholastic ability was very significantly related to performance on this test is further evidence of what might be called the pedantic nature of the Methodology examination. Therefore, since the questions do not reflect knowledge gained solely from observations, it is not surprising that modes of observation should have non-significant impacts on the Methodology results.

2. Lesson evaluation performance was significantly affected by the different modes of observation. This may, in part be due to the fact that this examination was an extension of procedures used during the semester. Each observation made by the students was followed by a discussion. First, the lesson had to be described by the students in sufficient detail so that a person who heard the description but had not seen the lesson could obtain a fairly accurate view of what had occurred. (This was particularly important in the DO situation since both the instructor and one-half the class had not seen the lesson observed by the other half of the class.) Second, the lesson was critically evaluated. This procedure was inaugurated following the very first observation of each semester.

After the first three observations had been discussed in this manner, students under all observational conditions were required to submit a paper based on the third observation. The paper was to contain a description of the lesson, a summary of the class evaluation, and the student's own critical statements above and beyond those already made in class. Instructors graded these papers for accuracy of reporting and for insightfulness in analysis. The eighth observation was also written up by the students, with this exception: the discussion of this lesson was postponed to the next class meeting, by which time all the papers were to have been submitted to the instructor. Thus the students did not have the benefit of class discussion prior to writing. In addition, this second paper was to contain only an evaluation; description was limited to those aspects of the lesson which substantiated the student's judgment. Except that this paper was written at home, with no official time limit, it was in essence a version of the Lesson Evaluation measure, although the students were unaware of this.

Thus, not only was the Lesson Evaluation an extension of observations made during the semester, but the two written exercises served as practice for the examination. There was no similar practice for the Methodology examination. No tests or quizzes of any kind intervened between pre-test and post-test. The Project staff chose this procedure deliberately to avoid having to account for the impact of such experiences on the final results. The Lesson Evaluation, therefore, measured the cumulative effects of the analysis of ten observations (eleven in the first semester).

3. Perhaps the most plausible explanation of the differential results when Methodology and Lesson Evaluation findings are compared resides in the relationships between training and testing conditions. In developing the logical bases for expecting differences among observational conditions, the issue of the "Student's Field of Vision" was noted. It was stated that an essential advantage of kinescope and television observation is their narrowing of the focus upon material the instructor considers relevant to the principles or concepts being taught and their elimination from the students' attention to irrelevant material. The kinescope observation provides a device for capturing on film the exact concept to be learned; television can provide such focusing better than direct observation but hot as effectively as kinescopes. Direct observation places few constraints upon the students' opportunity to misdirect his attention to a high proportion of irrelevant activity. As a teaching device, kinescope film provides a narrowing of focus upon what the instructor considers to be important. In explaining the difference between Methodology and Lesson Evaluation results, the following procedural matters are relevant:

(a) The Lesson Evaluation examination papers were graded by the instructors. Although the rating scales consisted mostly of verbatim quotations from student responses they were selected to fit the particular frames of reference of the two instructors.

(b) The DO students viewed the test lesson with an unrestricted "Field of Vision " The TV students were provided with two views pre-selected by one of the instructors who directed the technical staff in the control room. At any given moment, these were the two camera views regarded as most significant by the instructor. The K students received the better of these two views, again in the estimation of the instructor. To a degree, the audio signal was uniform for all students though it is quite possible to surmise that the free "vision" of the DO students also included free "hearing" as well. The technical staff made strong efforts to maintain a uniform audio level regardless of the source of sound. A child speaking softly in the studio and facing away from the observers (who were in the rear) might well have been heard clearly by TV and K and not at all by DO. In a very real sense, both TV and K were provided with an orientation to the test because of their restricted fields of vision, with K receiving the best orientation of all.

Thus, the planning, administration, and scoring of the essay examination reflects directly the aspects of the observed classroom lesson selected by the instructor as important. The objective information examination is broader and more diffuse, focusing less specifically and precisely upon what the instructor has identified as critical concepts. Thus, the nature of the relationship between training and testing instruments suggests an explanation for the positive critical evaluation results and the negative information results.

4. There is another dimension to this issue of correspondence between teaching and testing devices. All three observational procedures stress pictorial and verbal modes of presentation. Testing by means of the lesson evaluation technique includes pictorial, verbal, and written modes; testing

by means of the objective information examination is written only. There is a greater correspondence in modes of communication between observational conditions and lesson evaluation assessment than there is between observation and objective testing.

Several alternative interpretations are available. Novelty effects, the need to please the instructor who may have directly or indirectly expressed a preference among observational conditions, and the degree of escape from usual college classroom routines may all have affected the students' response to the observational conditions. However, there is no clear reason to have expected that these influences would have affected the lesson evaluation measure more strongly than the objective information measure.

Thus, the hypothesis of differential effectiveness of observational conditions was confirmed when a measure was used which assessed the students' ability to critically evaluate classroom behavior and was not confirmed by a measure of recall of information about teaching methods.

Beyond the findings central to the hypothesis tested, several other results deserve attention. The significant second order interaction presented in the analysis of variance of Lesson Evaluation scores suggests interesting variations in the degree to which observations are successfully applied in learning. The unsurprising general finding to date (e.g., Abel, 1960; Rumford, 1962) is that students of better scholastic ability make more effective use of observation than less able students. This finding is consistent with the performance of instructor B's students: despite the over-all superiority of TV as compared with DO, the above median DO students outperformed the below median TV students and despite the overall superiority of K over TV, the above median TV students outperformed the below median K's. Thus, for instructor B, the scholastic performance variable outweighed the observational conditions variable in impact upon Lesson Evaluation scores. For instructor A, however, the impact of the observational condition outweighed the considerable contribution of scholastic ability: below median TV's outperformed above median DO's, below median K's outperformed above median TV's. Here is evidence that the observational condition when used by certain instructors can outweigh the very great importance of general scholastic ability as a correlate of gain in learning. What instructor characteristics may be related to these differences?

For Instructor A the effect of observational condition outweighte scholastic ability. This result must be seen in the light of the fact that this instructor organized, planned, directed and edited the kinescopes, with Instructor B taking a limited part in the editing step only. Instrucor A was also the one who visited the school which provided all the TV lessons, although Instructor B did take part in final preparations for the lesson after the demonstrating teacher and class had arrived at the studio. Only with respect to the DO procedure was there something close to equality of participation by both instructors. Instructor A's investment of time and effort (most for K, less for TV, least for DO) may well have led to emotional and rational committment to the three observational modes in the same order, a committment which outweighed scholastic ability.

Fortunately, the Lesson Evaluation data produced by the students of both instructors support the hypothesis. Since both the instructor effect and the C x I x SA interaction are significant, there is good reason to assume a hierarchical differential impact among observational procedures apart from the involvment of particular instructors.

Three additional results of this study are probably best discussed in a single context. The Instructor variable (I) was significant for both the objective and the essay examinations; the Semester variable (S) was significant for the objective examination; its impact on the essay test is not verifiable because of the conversion of essay scores into standard scores. In addition, the I x S interaction was significant on the objective test.

Instructor B was an experienced, disciplined elementary school teacher. Her very first exposure to college teaching was in the two semesters of this project. Her preparation was thorough and detailed. Instructor A had been teaching this course for four years, had been largely responsible for the reorganization of the syllabus and carried administrative responsibilities both within and outside the project. Ergo, his preparation was not as fresh as that of Instructor B.

The two instructors also varied in their general approach to the course. Instructor A placed greater emphasis on the broad concepts underlying instructional behavior, giving less attention to the specific details, on the presumption that there is more agreement on broad concepts than on specifics of individual teacher behavior. Instructor B, while giving proper attention to these broad concepts, did nevertheless give greater weight to the specifics of teacher behavior, especially in the second semester, because of her recent and extensive classroom experience.

This offers a possible explanation for the superior performance of her students on the objective examination, particularly in the second semester, where her students made greated gains from pre- to post-test than did Instructor A's students. It may also be related to the SA x S interaction on the objective examination, where the difference scores were greater for the second semester than for the first.

It also has some bearing on both the I variable and on the I x C x SA interaction for the essay examination. An examination of the scoring keys in Appendix B will show that though students were rewarded for concept-level comments on the lessons, they could not score high unless they also added detailed comments. Thus a student who did not make concept-level comments, but did make detailed comments, might well outperform another student who included the former but omitted the latter.

The impact of scholastic ability on both dependent variables was to be expected. A student's cumulative index is the measure of her previous scholastic performance. Very likely the factors which account for a higher index also contribute both to better preparation for and more efficient skill in taking examinations. Successful performances on final examinations are strongly responsible for high final grades and, therefore, for high indices.

Two of the significant interaction effects upon the Methodology examination scores also deserve comment. The significant SA x S interaction indicates that the superiority of the above median scholastic ability students to the below median students was greater during the second semester. We indicated earlier that the time restrictions in the first semester upon discussion of observations were eliminated in the second semester. The significant SA x S effect suggests that the extended discussion periods were of greater benefit to above median students, leading to a greater separation of performance between above and below median students during the second semester.

The significant C x S interaction effect upon Methodology examination scores attests to the crucial role of replication in media research. The comparative effectiveness of conditions during the first semester ($\underline{TV} > \underline{DO} > \underline{K}$) were reversed during the second semester ($\underline{K} > \underline{DO} > \underline{TV}$), producing a non-significant overall result. It has often been mentioned in research on teaching methods that differences between methods fade as the innovator's enthusiasm wanes; replication is crucial whenever such spurious factors are likely to exist.

One substantive issue remains to be discussed before concluding the interpretation of the results. In testing students via the Lesson Evaluation examination each class observed the test lesson using the observational method it had used during the preceding semester. One might argue that there is little merit in evaluating lessons via TV and K since few teachers will have an opportunity to do so once they are on the job. Since the vast majority of their future observation will be of the DO type, all students in the project should have been tested after observing the test lesson in person. The project staff considered this issue carefully and rejected a DO test for all students because there was no way of calculating to what degree this procedure would have favored those students who had been observing via DO during the semester.

Alternative testing procedures were considered. For example, there might have been two test lessons, the first conducted in the manner actually used in the project, the second involving direct observation of the test lesson by all subjects. A more complicated procedure would have involved the scheduling of three test lessons so that each section of the course could have viewed these lessons using DO, TV and K respectively for the three lessons. Both of these possibilities were rejected for two reasons: (a) The Hunter College final examination schedule is not geared to accommodate common examinations for multiple sections of the same course. The project's examinations had to be conducted on the day after the last day of final examinations. A number of students delayed starting summer jobs (in June) and intersession activities in January in order to facilitate the project's operations. (b) Devising scoring keys, achieving the proper level of inter-rater reliability and actually scoring the papers on the Lesson Evaluation test consumed a tremendous amount of time. It would not have been administratively feasible to have doubled or trebled this task.

Concluding Comments

1. One of the by-products of this project was the creation of a number

of usable kinescopes of elementary school classes. Copies of some of these went to the New York City district superintendents whose teachers presented demonstration lessons. The kinescopes are being used for in-service training with teachers and for the pre-service training of future supervisors and administrators.

Instructors at Hunter College are also using the kinescopes to supplement other instructional materials. Their experiences have led to requests for recording lessons in other subject-matter areas and at different levels of school. This recording program will be initiated in the near future. Hunter College instructors also find value in employing the close-circuit facilities to observe the instructional program in the Hunter College Elementary School, even though the gifted population of that school is atypical.

2. Since this project has given some support to the instructional values of recorded lessons, it might be worthwhile to suggest possible extensions. As indicated earlier, the lessons recorded here were representative rather than exceptional. However, they were created to illustrate certain concepts and procedures in education.

The sequence of professional education courses has frequently been criticized for its focus on theory and its seeming divorce from practical application. Unlike the situation in other professions where instructors often practice the very thing they teach, education instructors (especially those teaching methods courses) are not simultaneously teaching public school pupils. Their college students, therefore, are being taught by a methodology suitable to college instruction but not directly transferrable to the public school. Supervisors of student teaching have frequently noted that student teachers try to teach as their college instructors taught them, not as they were advised to teach children. The observation of lessons in public schools is meant to reduce the dimensions of this problem by providing samples of successful professional behavior at the elementary school level. However, in view of the inherent shortcomings of direct observation, this approach falls short of achieving its aims. The results of this project lead us to offer the following suggestion.

(This suggestion might profitably be viewed in the light of a subjective reaction shared by both instructors in the project. Both instructors feel that students seem to learn more about teaching from a good lesson than from a mediocre one. After analyzing and generally rejecting the mediocre lesson students, in effect, ask: this is not very good; this we ought not to do; but what should we do? The higher the quality of the lesson the less students feel the need to ask the question. Kinescopes are particularly effective in reducing this need because the instructor can go far afield (geographically) to find exemplary instruction and can select and edit the films he acquires.)

The United States Office of Education could assemble knowledgeable people in each area of the curriculum at a given level of schooling. Their task would be to phrase concepts which should be the basis both for the structure of the subject matter and for the methods of instruction. With this statement in hand a search could be instituted for teachers who best exemplify these concepts in practice. The teachers and their classes could then be transported to the nearest recording facility (there now being many universities with videotape recorders) and their lessons recorded. A library of videotapes and/or kinescopes could thus be developed for dissemination by the Office of Education.

Such a dissemination effort would serve two purposes: (1) It would bring together educational leaders for the statement of concepts. This would have a most salutary effect on educational practice. (2) The process of identifying exemplary instruction would force participants into clearer definitions of the nature of instructional behavior, in itself an extremely desirable activity. The outcome of such an effort would also bring us nearer to a clarification of what "good teaching" is, with its eventual impact on the issue of "merit pay" for outstanding performance. In the process of identifying exemplary instruction, kinescopes and videotapes could be used to make the same lesson available to a great many viewers, widely separated in both time and space. Universities and colleges presently serving as repositories of federally distributed materials would then receive copies of videotapes and kinescopes to be managed in the same manner as films and filmstrips.

Such a national effort should not retard any university or college with recording facilities from local statements of concepts and their exemplication in locally-produced recordings.

3. Future studies on the values of closed-circuit and recorded lessons for observation will very likely yield more meaningful results if the testemonial and subjective appraisal approaches were abandoned. We have found it profitable in this research to attempt to delineate a logical theoretical basis for the empirical predictions, to translate the theoretical statement into detailed definitions of experimental and control variables, and to prescribe the optimal conditions of experimentation needed to test the proposed hypothesis. While systematic and rigorous media research is difficult to conduct without losing the complexity and practicality of the processes studies, it is probably our most promising road to understanding the role of media in teaching and learning.

Summary

This study tested the hypothesis that different techniques of classroom observation would result in different degrees of learning by teachers-in-training. Specifically, it was predicted that kinescope recordings (prepared in advance) would provide a more effective medium of observation than closed-circuit television, and that television observation would in turn be more effective than the traditional procedure of direct observation in the classroom. The logical theoretical basis for this hypothesis and the special conditions of experimentation used in this study were elaborated.

Measures of two dependent variables were used to test this hypothesis. One measure of the students' response to these observational techniques, an objective multiple-choice measure of information about methods of teaching, failed to confirm the hypothesis but did show systematic variation with several other experimental variables. The other measure, an essay examination assessing ability to critically evaluate an observed classroom lesson, revealed strong confirmation of the hypothesis.

Several other results emerged; these findings included significant evidence that the differential effect of the observational condition when used by certain instructors can outweigh the very great importance of general scholastic ability as a correlate of gain in learning.

Interpretations of these data were made to clarify the role of classroom observation in the teacher training process. Suggestions were offered for applying these results to expediting teacher education.

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Appendix A

Appendix A

HUNTER COLLEGE

CITY UNIVERSITY OF NEW YORK

EDUCATION DEPARTMENT

ED. 15.330 METHODOLOGY EXAMINATION TV PROJECT

1. The terms "intake" and "outgo" denote the dual nature of the
    1. language process.
    2. reading process.
    3. speaking process.
    4. listening process.

2. The sequence in which all children acquire the language arts
    1. varies, depending on mental capacity.
    2. varies on the basis of experiential background.
    3. is listening, speaking, writing, reading.
    4. is listening, speaking, reading, writing.

3. Research indicates that in preschool language development
    1. twins and children with siblings develop at the same rate.
    2. children with siblings develop faster than only children.
    3. only children develop faster than twins.
    4. twins develop faster than children with siblings.

4. "Children talk most effectively about the things they know best." In order to implement this principle, the most important measure the teacher can take is to
    1. provide opportunities in class for children to talk about their personal experiences.
    2. verify the children's knowledge about a topic before engaging in general discussion of that topic.
    3. discuss an experience with children after they have been through it, not before.
    4. provide opportunities for intake before asking them to explain or give directions.

5. The language skills required for most effective communication and discussion are acquired by children only
    1. after they have developed a sizeable speaking vocabulary.
    2. as they learn to describe their experiences.
    3. as they learn to compare or analyze their experiences.
    4. after they have developed certain word recognition skills.

6. Since reading is a process of evaluating meanings behind symbols, which of the following activities best promotes reading instruction on a new topic by helping children to expand their experiential background?
    1. A discussion
    2. A film strip
    3. A movie
    4. A talk by an expert

7. Good social adjustment tends to be associated with
    1. neither good nor poor reading in any consistent fashion.
    2. extent of reading but not with comprehension.
    3. either good or poor reading, depending upon socio-economic background.
    4. good reading.

8. The responsibility for teaching reading rests with
    1. primary grade teachers only.
    2. elementary school teachers only.
    3. all teachers below the high school level.
    4. all teachers, regardless of grade.

9. Research on the relationship between reading ability and mental age indicates that
    1. children should not be given reading instruction until they have reached an M. A. of six.
    2. children with mental ages of five can and should be taught how to read.
    3. mental maturity is a necessary but not a sufficient condition for progress in reading.
    4. mental maturity is both a necessary and sufficient condition for progress in reading.

10. Which one of the following pairs of procedures provides the best means of enlarging a student's vocabulary?
    1. Mastery of word analysis skills - directed word study.
    2. Directed word study - first-hand experiences.
    3. First-hand experiences - wide reading.
    4. Wide reading - mastery of word analysis skills.

11. A group reading readiness test should not be the sole means of predicting readiness because
    1. many schools now employ individualized reading programs.
    2. teachers are not sufficiently trained to analyze results of group tests.
    3. readiness tests are most frequently geared to the basal approach.
    4. group tests are often unreliable measures for young children.

12. If a child manifests poor attention, the teacher's initial step should be to investigate his
    1. cumulative folder for data on his home situation.
    2. cumulative folder for past school performance.
    3. hearing ability.
    4. overall social adjustment.

13. Which is the most accurate of the following generalizations about reading readiness?
    1. It is best to leave it to maturation, since instruction does not materially speed up the process.
    2. It can be taught and developed by the teacher.
    3. Attempts to develop it by instruction often lead to blocking or confusion.
    4. It can be taught to emotionally mature children, but it is best to leave it to maturation with emotionally immature children.

14. Which of the following is least significant inreading readiness?
    1. Ability to speak in complete sentences.
    2. Good health.
    3. A knowledge of the alphabet.
    4. Good speech habits.

15. If, in evaluating a first-grader's reading readiness, you could have only one of the following pieces of information, which one would you choose?
    1. Ordinal position in the family
    2. Prereading school experience
    3. The child's sex
    4. Chronological age

16. A first-grade child's reading readiness/is being assessed. The teacher concludes that he is not ready. She should
    1. delay the use of reading readiness activities until he has acquired a sufficient experiential background.
    2. introduce him to formal readiness activities to accelerate the readiness process.
    3. continue to engage the child in typical kindergarten activities.
    4. do none of the above.

17. The basal reader approach should be used by inexperienced teachers because it is
    1. more flexible than the other approaches.
    2. a simple method to use.
    3. a better and more complete program than any one teacher can evolve by herself.
    4. the one method which makes possible the grouping of children on the basis of reading levels.

18. The words children acquire as "sight vocabulary" are those which they already have in their speaking vocabulary because this reduces the task of reading to that of
    1. learning words by means of context, picture and configuration clues.
    2. learning words which children will meet most frequently in the basal readers.
    3. associating an unknown symbol with a known meaning and pronunciation.
    4. associating an unknown symbol and pronunciation with a known meaning.

19. Since the basis of reading lies in meanings rather than mechanics, the first step in a basal reader lesson should emphasize
    1. contextual or configurational clues.
    2. capacity level vocabulary.
    3. concept development.
    4. none of the above.

20. During the first step of a basal reading lesson the teacher should
    1. drill upon the new words in the story.
    2. systematically expand word recognition skills.
    3. develop relationships between the new facts and concepts and the language needed to express them.
    4. use the new words in the story to develop phonetic generalizations which the children have not met before.

21. In the process of introducing children to a sight word whose written symbol they have not seen before, the teacher's first step is to
    1. write the word on the board and give the children some clues so that they can pronounce it.
    2. write the word on the board and use it in a sentence.
    3. write the word on the board and have the students apply their word analysis skills to pronounce it.
    4. pronounce it and use it in a sentence.

22. In using a basal reader program, it is generally agreed that
    1. silent reading should precede oral reading.
    2. oral reading should precede silent reading.
    3. it does not matter which kind of reading is done first, silent or oral.
    4. there is some advantage to the silent-before-oral sequence in the lower grades, but no advantage in the upper grades.

23. According to the Scott-Foresman Teacher's Guide Book, when a child has difficulty with a basal reader word during either the initial silent reading or the subsequent oral re-reading, the teacher should
    1. tell him the word in both situations.
    2. have him try to "unlock" the word in both situations.
    3. tell him the word in silent reading and have him try to "unlock" it in silent reading.
    4. tell him the word in oral reading and have him try to "unlock" it in silent reading.

24. If, in the course of a basal reader lesson, the teacher finds that she has to resort to extensive drill on either "old" or "new" words, she should
    1. emphasize contextual skills in learning the words.
    2. emphasize word analysis in learning the new words.
    3. have the children review the stories in which the "old" words were used.
    4. reevaluate the instructional reading levels of the children.

25. Which of the following is not an objective of oral reading in a basal reading lesson?
    1. Pupil enjoyment
    2. Substantiation of pupil answers to questions
    3. Evaluation of pupil reading capacity
    4. Reading with expression

26. The last step of a basal reader lesson is generally the
    1. silent re-reading of the story.
    2. oral re-reading of the story.
    3. extension of word recognition skills.
    4. extension of interests.

27. The readability of the classroom library books should match
    1. the varying capacity levels within the class.
    2. the varying instructional levels within the class.
    3. the varying basal levels within the class.
    4. all of the above.

28. Maximum benefit is derived from workbook activity when the
    1. teacher collects and grades the workbooks, so as to gain additional data for diagnosing pupil difficulties.
    2. children and teacher discuss one answer at a time, and the children score themselves after each discussion as the teacher watches them.
    3. children and the teacher discuss all the correct answers, and the children score themselves while the teacher works with another group.
    4. children exchange workbooks for scoring after correct answers have been elicited from the class.

29. Which of the following criteria should guide a teacher in assigning "seatwork" to the rest of her class while she conducts a reading session with one group?
    a. Tasks related to the instructional needs of the pupils
    b. Tasks which help develop independent habits of work
    c. Tasks which make it necessary for pupils to remain in their seats
    d. Tasks which are in the field of language arts since this is a reading period

    1. Criteria a and b only
    2. Criteria a, b, and c only
    3. Criteria a, b, and d only
    4. All 4 criteria

30. Proper use of the workbooks which accompany the basal readers demands that each pupil complete
    1. each exercise in sequence.
    2. as many exercises as possible.
    3. at least one exercise on each concept in the workbook.
    4. only those exercises which bear on his reading needs.

31. Which of the following does not represent one of Harris' guiding principles on the problem of grouping in reading?
    1. When the range of reading ability is relatively narrow, groups may be set up on the basis of special needs.
    2. In a class with two groups, the lower group should be the smaller one.
    3. With experience, the teacher may increase the number of groups and/or add individualized work.
    4. It is desirable for the teacher to invite pupil participation in determining the number and size of groups.

32. At what point in the school year is it advisable to move a child from one reading group to another? He may be moved
    1. whenever it seems likely that he will profit from such a move and the move should be made immediately.
    2. whenever it seems likely that he will profit from such a move, but the actual transfer should take place at the end of a marking period.
    3. to a higher group at any time, but to a lower group only at the end of a marking period.
    4. only after completing a basal reader and being tested on his mastery of the material involved.

33. Harris bases his suggested plans for group instruction on a number of principles. Which of the following is not one of these principles?
    1. Each plan combines reading by groups with some wholeclass and some individualized reading.
    2. Length of periods has some relationship to the maturity of the children.
    3. Expectancy concerning what a group may be able to do alone or with a chairman is realistic.
    4. All groups get an equal share of the teacher's attention.

34. According to Harris, which of the following should guide the teacher in determining the size of the groups when there are two reading groups in the class?
    1. The two groups should generally be of the same size.
    2. The advanced group should generally be larger than the slower group.
    3. The size of the slower group should be determined by the number of children who are below grade level in reading.
    4. There is no generally accepted principle governing this area.

35. Which of the following is a legitimate basis for grouping children for reading?
    1. A common interest in stamp collecting.
    2. A common weakness in syllabication.
    3. Similarity of reading achievement scores.
    4. Any of the above.

36. The highest level at which the pupil can read satisfactorily in silent and oral-reading is called the
   1. basal level.
   2. instructional level.
   3. achievement level.
   4. capacity level.

37. According to Betts, the instructional level is characterized by which of the following combinations?

	Comprehension	Pronunciation
1.	50%	75%
2.	50%	95%
3.	75%	75%
4.	75%	95%

38. In appraising reading needs, the term capacity level refers to the highest reading level at which the pupil
   1. can read with full understanding.
   2. can deal adequately with the facts by means of oral language.
   3. will be able to read when he is brought up to grade level.
   4. will be able to read when his achievement catches up with his potential.

39. What happens to the range of differences in reading ability as students move through the elementary grades?
   1. It remains the same.
   2. It decreases with each succeeding grade.
   3. It increases with each succeeding grade.
   4. It follows no particular pattern of change or stability.

40. In which grades do teachers generally introduce children to picture dictionaries and glossaries?

	Picture Dictionary	Glossary
1.	Grade: Kg.	Grade: 2
2.	" : 1	" : 2
3.	" : 1	" : 3
4.	" : 2	" : 3

41. Reading authorities have said that overemphasis on the phonic approach may frequently
   A. subordinate meaning to mechanics.
   B. slow down reading rate.
   C. reduce interest in reading.
   D. produce unnatural articulation.

Which of these conclusions, if any, are valid:
   1. A and B only
   2. B, C, and D only
   3. A, B, and C only
   4. All of them

42. The immediate aim of having the child learn about structural and phonetic analysis is to enable him to
    1. enlarge his speaking vocabulary.
    2. gain meaning from the printed word.
    3. apply his experiential background to the reading situation.
    4. acquire facility in the pronunciation of words.

43. The word recognition program in reading follows a systematic sequence. The teacher should first ascertain where the child is in this sequence, and then
    1. cover, in sequential order, as much of the program for the grade as time permits.
    2. cover, in sequential order, all the remaining steps in the program prescribed for her grade.
    3. provide instruction to the child in terms of his deficiencies.
    4. provide enriching experiences for the child who is well above grade level in the sequence.

44. A teacher who wanted students to grasp the generalization exemplified by BADGE, FENCE, FRINGE, and FUDGE would probably contrast these words with
    1. BARE, HERE, TIDE, and CUTE.
    2. RATE, THESE, RIDE, and FUME.
    3. RATE, THERE, FIRE, and CUTE.
    4. CARE, MERE, WIDE, and FUME.

45. In the basal reader approach, when is systematic instruction in prefixes, suffixes, and roots initiated?
    1. All at the second level.
    2. It varies with the child, but roots are always taught before prefixes and suffixes.
    3. All at the third level.
    4. It depends on how frequently these elements occur in words at a given reading level.

46. With regard to the use of the analytic and synthetic approaches in the teaching of word recognition skills, most experts hold that
    1. the analytic is preferable to the synthetic.
    2. the synthetic is preferable to the analytic.
    3. neither approach is preferable to the other.
    4. the phonic approach is preferable to both.

47. Which one of the following reading skills is likely to be introduced before the other three?
    1. Hearing and seeing rhyming phonograms
    2. Sensitivity to S forms of plural words
    3. Recognition of words with varied endings (e.g. ED, ING)
    4. Recognition of most of the consonant sounds

48. Of the following reading skills which one is likely to be introduced last?
   1. Recognition of common prefixes and suffixes
   2. Recognition of common abbreviations
   3. Recognition of syllabic divisions of words
   4. Recognition of function of accent marks

49. The following four steps are followed in developing visual analysis skills in reading:
   A. visual perception
   B. auditory discrimination between specific speech sounds
   C. recognition of the relationship between sounds and the symbols used to represent them
   D. auditory perception of specific speech sounds

   Their correct order is
   1. D, B, C, A.
   2. D, C, A, B.
   3. B, D, C, A.
   4. B, C, A, D.

50. The following are reading skills:
   a. Recognition of long vowels in final E words
   b. Recognition of contractions
   c. Recognition of consonant blends

   Where, in a typical word analysis program, are they likely to be introduced?
   1. All at second-level reading
   2. All at third-level reading
   3. "C" at second-level, "a and b" at third-level reading
   4. "A and c" at second-level, "b" at third-level reading

51. Which of the following instructions would be confusing to an average beginner in reading?
   a. "Point to the last sound in CLOCK."
   b. "The vowel sounds are A, E, I, O, U, and sometimes W and Y."
   c. "SH, TH, WH, and NG are blends."

   1. A and C only.
   2. A and B only.
   3. B and C only.
   4. All of them.

52. A supervisor arrives in a classroom just at the end of a reading period. On the blackboard are these words:

CAT

PAT
TAB
CAB
CAN
CAP
CAT

NAP
PAN
TAN
MAN
MAT

FAT
HAT
SAP
SAT
BAT

RAT

   What reading skill(s) would he surmise had just been taught?
   1. The short sound of A only.
   2. The "AT" family and related words.
   3. Consonant substitution only.
   4. None of the above.

53. When a teacher tries to get a "word-by-word" reader to perceive phrases instead of single words, she must be careful about setting reasonable goals for the students. In setting such goals, it is helpful to know that in perceiving a line of 10 words, the number of fixations made by an average high school student is
    1. 2 or 3.
    2. 4 or 5.
    3. 6 or 7.
    4. 7 or more.

54. After a reading-type experience chart has been written and illustrated, what additional value, if any, does it have for the instructional program in reading?
    1. It has no additional value; the process of making it is the important thing.
    2. It has no additional value, except that displaying it in the classroom does show such visitors as the principal what the class is doing in reading.
    3. It has only one additional value, an indirect one, as when students copy it for penmanship practice, penmanship being related to reading.
    4. Additional value can be derived by making a duplicate copy, cutting it up into phrases or words and using it for drill.

55. Experience records make possible the accepted theoretical order of learning, which proceeds from
    1. the simple to the complex
    2. experience to language.
    3. the specific to the general.
    4. words to experience to comprehension.

56. Which of the following is not an important characteristic of a good reading-type experience chart?
    1. It has a unifying topic.
    2. The ideas and language come from the children.
    3. A clear sequence of events is reported.
    4. The length of the chart is determined by the number of ideas the children wish to include.

57. The chief criterion for deciding whether an experience chart or record should be made of a given activity is that the
    1. activity can be described in the vocabulary of the pre-primer and primer.
    2. record will permit the teacher to introduce or develop certain specific reading skills.
    3. teacher sees a worth-while purpose in making the record.
    4. children have a clear-cut motive in making the record.

58. The unique feature of the experience approach is that
    1. it is easier to learn reading skills from a record of one's own experiences than from a basal reader.
    2. children are helped to benefit by their experiences.
    3. children learn to read in the same way as they learned to talk.
    4. instruction can be individualized more effectively via this technique than any other now available.

59. In creating reading-type experience records, the teacher should
    1. write the spontaneous and original words which the children dictate.
    2. guide the children to express their thoughts in the words she wishes to stress.
    3. give the children exercises which integrate the various word skills.
    4. provide all of the above experiences.

60. In the sequence of constructing an experience chart, the stage in which it is most desirable to have every pupil participate is the
    1. preparation of the final draft.
    2. preliminary draft.
    3. selection of form of chart.
    4. preparation of illustrations.

61. In developing an experience record with her students, the teacher involves the students in
    1. all aspects of the development.
    2. all aspects, except editing the preliminary draft.
    3. all aspects, except the choice of the type of record to be used.
    4. all aspects, except the construction of the record in permanent or semi-permanent form.

62. Which of the following is not a possible limitation on the value of reading-type experience records?
    1. The use of controlled vocabulary may limit the record's literary quality.
    2. The children may resort to memorization of the record.
    3. The children may become overdependent on context clues.
    4. The reading program may be narrowed by the overemphasis upon immediate experiences.

63. In making use of the reading-type experience chart, the teacher must
    1. phrase the sentences on the chart in the vocabulary suggested by the children, except for grammatical errors.
    2. provide for sufficient repetition of words.
    3. include all ideas suggested by the children.
    4. integrate language purpose themes with reading purpose themes.

64. The exponents of individualized reading repeatedly use three key words to characterize the basic features of their program. These words are
    1. preparation, self-selection, and pacing.
    2. self-selection, pacing, and sharing.
    3. preparation, seeking, and sharing.
    4. seeking, self-selection, and pacing.

65. In individualized reading,
    1. there are no reading groups.
    2. a class of 30 children needs at least 60 books.
    3. most teachers try to read individually with all their pupils in the space of 3 or 4 days.
    4. growth in reading skills is more effective because of its focus on the individual.

66. Basal reading and individualized reading are alike in some respects and differ in other respects. For example, in individualized reading,
    1. "preparation" for reading is almost completely eliminated.
    2. reading is "guided" by specifically stated purposes, just as in the basal approach.
    3. "extension" of word recognition skills follows the systematic presentation characteristic of the basal approach.
    4. "comprehension" is checked more thoroughly than in basal reading.

67. The research studies (quoted by Harris) on the comparative effectiveness of individualized and basal reading indicate that
    1. good and average readers did about equally well with both methods.
    2. poorer readers made more progress in individualized reading.
    3. good readers did better in individualized reading, while average and poorer readers did better in basal reading.
    4. individualized reading is more effective than basal reading with all kinds of students.

68. Mrs. Adams, the regular class teacher, takes aside a student or a group of students to try to improve a particular reading skill, while the rest of the class is not present. Mrs. Adams is engaged in
    1. remedial reading.
    2. corrective reading.
    3. improving capacity level reading.
    4. all of the above.

69. Johnny is in the 5th grade, and reading at the 5th level. His IQ is 132. It is most accurate to describe Johnny as a case of
    1. reading disability.
    2. reading retardation.
    3. neither reading disability nor reading retardation.
    4. both reading disability and reading retardation.

70. Mrs. Jones, a reading specialist, takes over the class from Mrs. Adams, the regular teacher, to stress a particular word recognition skill with which the class has had difficulty. This is a case of
  1. **remedial reading.**
  2. **neither remedial nor corrective reading.**
  3. **corrective reading.**
  4. **both remedial and corrective reading.**

71. Which of the following groups is the largest element in the retarded reader population?
  1. **Mostly girls.**
  2. **Mostly boys.**
  3. **Boys and girls in equal proportions.**
  4. **Mostly boys of elementary school age.**

72. Peter has a IQ of 86. He is in the 5th grade, and is reading at the 4th level. It is most accurate to describe him as
  1. **a case of reading retardation.**
  2. **a case of reading disability.**
  3. **neither a case of reading retardation nor a case of reading disability.**
  4. **both retarded and disabled in reading.**

73. Johnny is in the 5th grade, but is reading at the 4th level. He has an IQ of 126. He is most accurately described as a case of
  1. **reading retardation and reading disability.**
  2. **reading retardation but not reading disability.**
  3. **reading disability but not reading retardation.**
  4. **neither reading retardation nor reading disability until additional information is obtained.**

74. To have the hearing ability of all 25 pupils in a class appraised at the same time, the teacher might best use the
  1. **Seashore hearing test.**
  2. **audiometer test.**
  3. **multiple tuning-fork test.**
  4. **forced whisper and low-voice test.**

75. The demands made upon critical thinking are
  1. **greater for reading than for listening.**
  2. **greater for listening than for reading.**
  3. **greater for reading in the case of older children, for listening in the case of younger children.**
  4. **equally great for listening and reading.**

76. Which of the following are legitimate directions for a teacher to give pupils during choral speaking?
    a. "Say it in a whisper."
    b. "Try to make it sadder."
    c. "Gently, more gently, please."
    d. "With more dramatic force!"

    1. a only.
    2. a and b only.
    3. a, b, and c only.
    4. all of the above.

77. In teaching English as a second language, a functional knowledge of the students' language by the teacher is
    1. essential.
    2. desirable, but not essential.
    3. essential for certain learning processes but not for others.
    4. undesirable, because she might use it too readily instead of encouraging the use of English.

78. One of Finocchiaro's guiding principles in teaching English as a second language is that the language arts should always be
    1. mastered concurrently.
    2. practiced at least in pairs, not singly.
    3. mastered in their usual sequence.
    4. mastered to at least an elementary level before consideration of cultural context is introduced.

79. In discussing materials and equipment useful to the teacher of English as a second language, Finocchiaro says that essential equipment includes
    1. films or film strips to enlarge the students' knowledge of American culture.
    2. sets of books at various reading levels.
    3. a tape recorder to help students evaluate their own progress.
    4. none of the above.

80. According to Finocchiaro's "Steps in Daily Planning," the greatest amount of time in the daily lesson is to be devoted to the
    1. apperceptive basis of the approach.
    2. presentation of the new material.
    3. development of the generalization.
    4. drill and application of the generalization.

81. Before children begin the first draft of a creative piece of written expression, it is generally considered appropriate for the teacher to remind the children about the importance of
    1. writing in complete sentences.
    2. a good topic sentence for each paragraph.
    3. following the format the class has adopted for such work.
    4. none of the above.

82. The first developmental step in learning to write consists of
    1. individual compositions dictated to the teacher.
    2. cooperative compositions dictated to the teacher.
    3. having the pupils complete unfinished stories.
    4. having the pupils complete unfinished letters.

83. Which of the following statements about "studied" and "unstudied" dictation is most accurate?
    1. Both are meant to enhance skills in creativity.
    2. Both are meant to enhance mechanical skills.
    3. Only "studied" dictation is designed to enhance mechanical skills.
    4. Only "unstudied" dictation is designed to enhance creative skills.

84. When students with poor cultural backgrounds make grammatical errors in their speech, the teacher should
    1. rephrase their ideas in correct grammatical form.
    2. call attention only to such gross errors as distort the meanings intended by the children.
    3. avoid making corrections and plan that her own general speech pattern will serve as a model.
    4. do none of the above.

85. Which of the following statements best summarizes the prevailing view about the place of grammar in the elementary school language arts program?
    1. A basis for later education should be laid in the elementary school by a study of formal rules of grammar and their applications.
    2. Students should be taught formal rules which they can then use as criteria for evaluating their own written work for correctness of usage.
    3. There should be direct practice on correct grammatical forms, because such practice is superior to the study of formal rules and to the thought approach for improving sentence structure.
    4. There should be direct practice on correct forms because such practice is superior to a study of formal rules, although it is inferior to the thought approach for improving sentence structure.

86. When a pretest is given in Spelling, it is generally suggested that
    1. the teacher correct the papers.
    2. each pupil correct his own paper.
    3. student partners exchange and correct their papers.
    4. any of the above, depending on the grade level.

87. The aim of a spelling program is to help each pupil spell correctly only the words
    1. he has learned to read in the reading program.
    2. he uses in his writing.
    3. appropriate to his spelling level.
    4. appropriate to his mental age level.

88. The New York City Spelling curriculum recommends that the most tangible guide to a child's initial instructional level in Spelling will be found by reviewing his
    1. past achievements in Spelling.
    2. inventory test results.
    3. performance on a test of the most frequently misspelled words.
    4. recent written work.

89. Direct instruction in spelling is begun only after a child has
    1. gained a considerable sight vocabulary and is ready for word analysis in reading.
    2. mastered a good many of the basic generalizations in phonetic and structural analysis.
    3. completed the primer in basal reading or its equivalent.
    4. learned the alphabet and the sounds of the letters.

90. The N. Y. C. Spelling syllabus, speaking of elementary school practice, recommends that each word be taught as an individual problem in the lower grades and that generalizations be taught
    1. inductively in the middle and deductively in the upper grades.
    2. deductively in the middle and inductively in the upper grades.
    3. inductively in both the middle and upper grades.
    4. deductively in both the middle and upper grades.

91. Which of the following is the most accurate generalization about the goals of penmanship instruction?
    1. The most improtant goal is legibility, a legibility based on certain accepted standards of slant, spacing, letter formation, etc.
    2. Since legibility is the most important goal, any consistent pattern of letter formation, slant, etc. which a student produces is as acceptable as any standard pattern.
    3. The most important goal is mastery of a standard pattern of penmanship, an obvious by-product of which will be legibility.
    4. The most improtant goal is the ease and relaxed motion with which penmanship is produced, otherwise students will tire easily when they write.

92. The purpose of having children copy experience charts is to
    1. deepen understanding of the activity which gave rise to the chart.
    2. help develop mastery of the mechanics of writing.
    3. accomplish both 1 and 2 above.
    4. accomplish neither 1 nor 2 above.

93. The slant characteristic of cursive writing (as contrasted with the vertical characteristic of manuscript writing) is achieved by
    1. a change of the direction of the strokes only.
    2. a change in the position of the paper only.
    3. a change in both the direction of stroke and the position of the paper.
    4. a change in both the position of the paper and the grasp of the pen or pencil.

94. Which of the following terms are used in descriptions of cursive letter forms in the N.Y.C. handwriting syllabus?
    a. Straight slanting up stroke
    b. Boat ending stroke
    c. Indirect oval
    d. Retrace stroke

    1. a, b, and c only
    2. a, b, and d only
    3. a, c, and d only
    4. b, c, and d only

95. A teacher can most effectively motivate students to improve their handwriting by having the pupils
    1. measure their progress regularly against standard handwriting scales.
    2. select the best handwriting specimens in their class and display them as models for the whole class.
    3. meet in committees to examine specimens of class handwriting papers.
    4. make handwriting scales from specimens of their own writing.

96. In elaborating on its educational aims and objectives, the N.Y.C. Board of Education indicates that, underlying the school's program is the responsibility to develop moral values, and
    1. a belief in God, but on a non-sectarian basis.
    2. the understanding of the place of religion in the life of the child.
    3. both of the above.
    4. neither of the above.

97. According to the N. Y. State Education Department, what per cent of the time should be devoted to language arts activities in the fifth grade?
    1. 25%
    2. 30%
    3. 35%
    4. 40%

98. According to the N. Y. State Education Department, what per cent of the time should be devoted to language arts activities in the second grade?
    1. 25%
    2. 30%
    3. 35%
    4. 40%

99. The following activities are frequently carried on during the first day of a new school year. Of these the most essential is
    1. to get the children to become acquainted with one another.
    2. teaching the children something new.
    3. to acquaint the children with what will be expected of them by the teacher in their new class.
    4. discussing their summer experiences with the children.

100. In planning, the primary reason that the teacher should consider methods and materials appropriate to grade levels higher and lower than her own is that she
    1. cannot teach subject matter at a particular level without knowing what precedes and follows it.
    2. must provide for the variations in ability among the children in her class.
    3. must coordinate her plans with those of the rest of the school.
    4. may better evaluate the learnings which students bring with them from their previous classes.

101. "Teaching plans are always to be regarded as tentative so that valuable unexpected opportunities can be exploited." Which of the following are examples of such an opportunity?
    a. A new and highly recommended film unexpectedly becomes available to you while class is in session.
    b. Upon returning to class from a stimulating puppet show in the auditorium, the children want to begin planning a puppet show of their own.
    c. An event of great significance is announced by the public media of communication.
    d. An important person is at the school and is made available to your class.

    1. a and b only
    2. b and c only
    3. c and d only
    4. all of them

102. Which of the following is an adequate unit topic?
    1. Section heading in a Social Studies text: "Unit 3 - What Progress was Made by Ancient Peoples?"
    2. "What are the Natural Resources and Industrial Products of the Middle Atlantic States?"
    3. "How are Plants and Animals Cared For?"
    4. "How Does Climate Affect Food, Clothing and Shelter?"

103. In what ways are resource units and teaching units alike and in what ways do they differ?
   1. They are alike in that they both contain a blueprint for a particular sequence of classroom activities.
   2. They are alike in that they both contain a section devoted to subject matter background for teachers.
   3. They differ in that only the teaching unit contains suggestions for instruction.
   4. They differ in that the resource unit contains more material than could possibly be used with any one class.

104. The teacher can best help children with no previous experience in committee work gain ability for working in committees by
   1. eliciting from the children information about the functions of committees, chairmen and members.
   2. training a group of brighter pupils in committee operation and then assigning each a committee to chair.
   3. doing either of the above.
   4. doing neither of the above.

105. The emphasis on "unit activities" in relation to the total school program should be
   1. at least as great as the emphasis on all other school activities.
   2. determined by the educational objectives.
   3. determined by the pupils' interest in them.
   4. governed by none of the above principles.

106. What is the most effective committee size for primary grade children?
   1. 6 or 7.
   2. 4 or 5.
   3. 2 or 3.
   4. There is no predetermined figure.

107. It is generally recommended that the size of the committee doing unit work should be determined primarily by
   1. the nature of that committee's assignment.
   2. the ability of the children to work effectively with others.
   3. the motivation of the children to work in a particular topic.
   4. all of the above in equal measure.

108. Planning can be done in any of the following ways:
   a. By the teacher alone
   b. With the entire class
   c. With groups within the class
   d. With individuals

   Which of these ways are desirable?
   1. a and b only.
   2. b and c only.
   3. a, b, and c only.
   4. a, b, c, and d.

109. Teachers are advised to make provision for teacher-pupil planning. This suggests that the teacher comes to class each day with a
    1. broad, general plan and that the specific details arise out of discussion with the class.
    2. specific detailed plan which is submitted for discussion and amendment by the children.
    3. broad, general plan which is shared with the class so that the pupils will know what to expect.
    4. specific, detailed plan which contains areas for pupil planning, but these areas are always determined by the teacher.

110. An accepted principle for using drill work in the teaching of skills is that drill
    1. will help students acquire mastery of a skill which will lead to understanding of the underlying concepts.
    2. is rarely necessary for students who understand the underlying concepts.
    3. will help students in making specific associations automatic and permanent.
    4. is useful for all students in inverse ratio to their understanding of the concepts underlying a skill.

111. Frequent repetition by the teacher of her own statements or questions and the statements or responses of individual pupils
    1. is a sound means for ensuring comprehension by the entire class.
    2. is permissible with primary grade children, but undesirable in the upper grades.
    3. is a means of fostering habits of inattention on the part of students.
    4. is permissible with children whose language development is limited.

112. The primary goal of discipline in the school is to
    1. promote routines which ensure children's safety.
    2. develop self-discipline in children.
    3. establish respect for law and order.
    4. maintain a proper learning atmosphere.

113. A teacher has explained a carefully-selected, well-motivated assignment to her pupils. She asked whether everyone understood the task. She can generally expect that
    1. the assignment will have been understood by those pupils who had no questions to ask about it.
    2. the assignment will not be understood by some pupils.
    3. the assignment will be done correctly only by those who were really honest about saying they understood.
    4. none of the above will occur.

114. In dealing with a child who is emotionally unstable, the teacher should never
  1. isolate him by occupying him with an individual activity.
  2. try to deal with the basic underlying psychological causes of the instability.
  3. ignore any unacceptable behavior on his part.
  4. insist that he follow a class routine.

115. "Obedience without question" is a form of discipline which the teacher should use
  1. under no conditions.
  2. under certain conditions for all children.
  3. under almost all conditions for students who are discipline problems.
  4. only when her authority is being challenged.

116. Once the children have learned the routine required for effective participation in a given activity, what principle should apply regarding the routine?
  1. It should remain unchanged for the rest of the school year to avoid confusion.
  2. It should be changed periodically to avoid boredom.
  3. It should remain unchanged in order to avoid diminishing teacher's authority.
  4. None of the above.

117. Every classroom needs a set of administrative procedures for efficient operation. Teachers have found it best to
  1. spend the early days of the term in telling the children what these procedures are and explaining their rationale.
  2. devote most of the time during the early days of the term in having the children work out these procedures under her guidance.
  3. write out these procedures on large charts and discuss them with the students.
  4. work each procedure out with the children when the *need arises.*

118. A teacher, working with 3 reading groups, has just begun a reading session with her middle group when the principal brings a new boy to the class. Before leaving, the principal discreetly indicates to the teacher that the boy is poor in reading. The teacher's next immediate action is to
  1. introduce the boy to the whole class, give him a seat and have him do a practice exercise to test his reading level.
  2. introduce him to a boy in the slowest group and have the two boys work together during the rest of the reading session.
  3. take the boy along to the middle group and observe his reactions to the work of this group during the reading period.
  4. ask the middle group to work alone for a few minutes while she decides what to do with the new boy.

119. The level of aspiration of students who fail continuously will be set
    1. cautiously.
    2. unreasonably high.
    3. inconsistently.
    4. unreasonably low.

120. Goals in school should
    1. resemble the pupils' goals in similar out-of-school situations.
    2. be easier to attain than out-of-school goals in similar situations.
    3. emphasize more socially useful activities than are available outside of school.
    4. depend upon the attractiveness of various forms of incentive for the pupil.

Appendix A

Item Analysis Data (Average Difficulty Level and Discrimination Index) for 120 Item Methodology Examination When Used as Post-Measure during the Second Semester

Item No.	Average Difficulty (AD): % of sample passing each item	Discrimination Index (r)
1	95	.08
2	100	.00
3	96	.35
4	47	.04
5	18	.09
6	37	.19
7	65	.36
8	65	.40
9	39	.11
10	49	.31
11	89	.09
12	61	.26
13	51	.27
14	60	.17
15	51	.10
16	12	.04
17	61	.02
18	85	.15
19	48	.33
20	70	.19
21	63	.19
22	97	.30
23	28	.00
24	60	.17
25	30	.24
26	100	.00
27	42	.42
28	54	.04
29	57	.43
30	69	.28
31	92	.23
32	86	.31
33	54	.37
34	80	.44
35	58	.08

Item No.	Average Difficulty (AD): % of sample passing each item	Discrimination Index (r)
36	63	.35
37	69	.48
38	60	.50
39	54	.52
40	48	.29
41	72	.15
42	56	.00
43	50	.25
44	59	.06
45	46	.21
46	56	.08
47	20	-.03
48	38	.21
49	32	.14
50	12	.26
51	65	.20
52	28	.19
53	18	-.03
54	84	.44
55	71	.27
56	78	.28
57	26	.05
58	34	.29
59	52	.25
60	84	.11
61	28	.05
62	44	.29
63	46	.16
64	72	.30
65	44	.29
66	70	.47
67	43	.19
68	59	.02
69	74	.36
70	57	.23
71	59	.40
72	47	.04
73	47	.22
74	70	.09
75	41	.32
76	38	.21
77	87	.38
78	62	.17
79	45	.31
80	49	.27

Item No.	Average Difficulty (AD): % of sample passing each item	Discrimination Index (r)
81	79	.14
82	66	.29
83	30	.19
84	31	-.02
85	33	.11
86	58	.29
87	53	.18
88	48	.20
89	37	.34
90	28	.36
91	81	.21
92	25	-.08
93	84	-.03
94	28	.30
95	53	.18
96	40	.13
97	64	.42
98	65	.49
99	84	.18
100	53	.06
101	22	.28
102	54	.29
103	68	.27
104	28	.30
105	53	.27
106	46	.37
107	16	.53
108	23	.36
109	37	.19
110	48	.16
111	80	.44
112	63	.24
113	83	.21
114	77	.35
115	65	.27
116	49	.42
117	72.	.38
118	57	.23
119	4	.19
120	72	.25

APPENDIX B

Appendix B

Test Lesson - Semester I

The teacher called the children's attention to a display of pictures featuring ordinary people in ordinary poses. She told them to observe the expressions on the people's faces and to note the emotions portrayed by the facial expressions. "What do these pictures tell you?" was her first question. The children speculated at length on the stories suggested by the pictures. Their comments continued in the same vein when the teacher asked if any of the people looked familiar to the children and if they would like to know any of the people.

In the course of this commentary the teacher asked the children to judge what kind of person each was from his facial expression. The responses focused on the story behind the picture, only rarely on the characteristics of the subject. The teacher did not react to this matter but pursued her next step which was to introduce a poem to the class.

She stated that whereas one could not be sure of the emotions in a picture, she had the actual words of a poet whose picture might or might not be in the display. The poem was read aloud by the teacher. Copies were then distributed to the children who followed in them as the teacher re-read the poem. They were directed to read it silently when she finished.

A discussion of the poem ensued. By means of a series of pivotal questions, the teacher attempted to sharpen the children's interpretation of the poet's meaning. She rephrased her questions frequently before calling for an answer. Many of the questions required a comparison of the children's experiences with those of the poet. The children talked freely about their experiences but generally without reference to the poet's. All answers were accepted without comment. No attempt was made to limit responses nor to relate them to the significance of the poem. The discussion was brought to an end with one final question bearing on the characteristics of a person who, like the poet, finds joy in the simple things of life.

The teacher left the children with a problem (somewhat philosophic in nature) to think about and the promise that "we will talk about it again very soon."

Appendix B

SCORING KEY — LESSON EVALUATION — SEMESTER I

Question 1a: Maximum value - 5 points

a. 5 - making children aware of the simple things which contribute to happiness
b. 5 - compare the sources of happiness of the poet and the children
c. 4 - I would assume that the aim was to analyze the poem for its meaning, the moods created, etc., on the basis of their own past experience
d. 3 - to make the children more aware of the feelings in poetry
e. 3 - to interpret the meaning of the poem and how the poet felt
f. 2 - to understand and appreciate the poem
g. 2 - simple interpretation of poetry
h. 2 - to bring this out of the abstract and into the context of their everyday lives
i. 1 - that feelings and emotions can be expressed through poetry as well as through pictures
j. 1 - interpret pictures, telling the moods of people
k. 1 - overall aim was to see the different interpretations of art
l. 0 - stimulate creative thinking
m. 0 - words are better than pictures
n. 0 - to test critical analysis skills
o. 0 - one cannot be absolutely sure of what the artist is saying
p. 0 - that sometimes people express things that are either unfamiliar to us or disagree with our ideas

Question 1b: Maximum value - 5 points

a. 5 - teacher uses questions about the poems to elicit the comparison between the poet's feelings and the children's feelings and relates the experiences of the children to the poems
b. 4 - teacher uses questions about the poems to elicit the comparison between the poet's feelings and the children's feelings
c. 3 - teacher indicated her aims through the questions about the pictures on the bulletin board and the poems
d. 1 - by relating their own experiences to this poem
e. 1 - teacher used the reactions of students about the emotions in the pictures to set the stage for communicating aims
f. 1 - by asking children what emotions they thought were illustrated in the pictures
g. 1 - by asking questions about the emotions in the pictures and the poems to show that pictures and poems could express a number of things
h. 1 - aim was not directly stated, but the teacher was able to bring the aims across in a subtle way
i. 0 - poetry would give a truer picture than the illustrations could

Question 2 (acceptable): Maximum value - 10 points

a. 4 - pictures and poems provided a common experience as a base for the lesson; the teacher was effective in using both
b. 4 - teacher asked good questions which pertained to the poem and the personal experiences of the children

c. 3 - means of motivation.....discussion of pictures on the wall with regard to emotions, personal experiences was excellent
d. 3 - the teacher led into the lesson quite well by asking for and receiving opinions about expressions in the pictures
e. 3 - made good transition to the poem because they would discuss it and see if the poet's picture was there
f. 3 - questions were highly motivating for discussion (but the questions were too hard)
g. 2 - related pictures and poem to children's experiences
h. 2 - the use of the pictures was very effective; they were easy to see; teacher's questions drew enthusiastic replies
i. 2 - students offered opinions, interpretations of mood and their own experiences
j. 2 - poem was enjoyable, had a nice theme
k. 2 - geared questions to the children's personal experiences
l. 2 - questions quite direct
m. 2 - questions good because they took the class out of the abstract and put them into the world of their own experiences
n. 1 - had listening to poem before speaking
o. 1 - teacher gave copy of poem to each child and had them follow as she read it
p. 1 - class well disciplined
q. 1 - class got restless near end; good that teacher stopped when she did
r. 1 - had appropriate questions
s. 1 - teacher left the class with a question to think about
t. 1 - likes pictures on the bulletin board as introduction
u. 1 - teacher knew her material
v. 1 - most of the class participated; lesson was therefore interesting
w. 1 - teacher was pleasant; friendly atmosphere
x. 1 - aims of the lesson were good
y. 0 - lesson was above average
z. 0 - teacher did narrow discussion to specific facts when she asked for specific things mentioned in the poem
aa. 0 - teacher related her comments to experiences children have had
bb. 0 - lesson was good because it got them to express many of their own feelings

Question 2 (unacceptable): Maximum value - 20 points

a. 15 - children [illegible]nswers were not questioned and discussed in terms of the lesson, but merely accepted and dropped
b. 10 - children should not have been allowed to talk so long when they did not reply to the questions
c. 10 - children were discussing unrelated topics instead of the significance of the small things mentioned in the poem
d. 10 - lesson rambled and seemed very undecisive; the teacher should have cut some of these answers
e. 10 - interpretation and discussion of the poem was limited, disorganized and lacked a very meaningful goal
f. 10 - teacher allowed long detailed discussion, most often irrelevant; children did not answer questions
g. 10 - teacher made very few comments on children's answers
h. 10 - teacher let children answer questions in terms of their own experiences rather than upon the poet's actual meaning (no responses to

question about how the children feel and the poet feels in the morning)
i. 10 - teacher allowed the students to ramble
j. 10 - teacher didn't seem to get the answers she wanted
k. 10 - very few obvious attempts to channel their experiences to fit the lesson
l. 10 - no definite connections made between pupils' responses and teachey's questions
m. 4 - teacher didn't provide enough comparisons between the bright spots in the children's and the poet's lives to get her point across
n. 3 - lesson was a failure in terms of its set goals
o. 2 - teacher did not identify poet with a picture as she had suggested pupils might be able to do
p. 2 - atmosphere became restless and bored
q. 2 - teacher said "all right" after each response; this was tiresome and dull
r. 2 - discussion generally broad and vague
s. 2 - aim was too abstract for the children
t. 2 - question about ambition might have been better as to choice of words or timing
u. 2 - teacher was neither very interested nor an interesting person
v. 2 - teacher didn't stop children from answering a previous question after a new one had been asked
w. 1 - poem not presented with enough expression
x. 1 - question about ambition not a good question
y. 1 - teacher hadn't planned sufficiently
z. 1 - poem poorly read
aa. 1 - no silent reading of the poem
bb. 1 - poem not appropriate; children lacked the maturity to understand it
cc. 1 - teacher should have summarized the poem or explained parts of it before asking for discussion
dd. 1 - should have had a different poem
ee. 0 - should have identified poem and poet by name
ff. 0 - teacher should have used the vocabulary of the poem to get pupils thinking
gg. 0 - lesson wasn't creative
hh. 0 - lesson too drawn out

Appendix B

Test Lesson - Semester II

The teacher introduced her lesson by anticipating the approach of the summer vacation with its possibilities for fun and relaxation, referring as she talked, to a display of pictures depicting appropriate summer activities. The children responded to her remarks by giving their reactions to the prospect of summer pleasures.

By way of preparing the children for reading a selection of poems about summer which "express the poet's outlook and enjoyment of the season," the teacher reminded them that they, too, had occasionally written poems to express their feelings on certain subjects. The children were then told that they should look for two things when they read the poems: (1) the elements in poetry which "distinguish it from other forms of literature," and (2) the poet's point of view and whether they agree with it.

The poems were distributed to the children who were directed to read silently, "pretending that you are reading aloud with expression." While the class was reading, the teacher repeated and amplified her directions for purposive silent reading.

Without terminating the reading period, the teacher proceeded to a discussion of the elements of poetry. Using the question and answer technique she elicited five elements of poetry which she listed on the blackboard: (1) emotion-mood, (2) sensory imagery, (3) rhythm, (4) method of rhyme, and (5) word patterns. In the course of developing the list, the teacher frequently asked for synonyms to clarify the terms contributed by the children, and often supplied the words she wanted them to use. Reference was made to some of the poems to identify two of the elements, namely, method of rhyme and word patterns.

The children were then asked to react to the content of the poems - specifically, to compare their anticipation of summer pleasures with the poet's views on the subject. Most of the children contributed accounts of their great expectations; a few made comments on the content of the poems.

The lesson was concluded with an assignment for the children to write a poem about summer which would incorporate the elements of poetry and their own views.

Appendix B

SCORING KEY — LESSON EVALUATION — SEMESTER II

Question 1a: Maximum value - 8 points

A. Understanding Poetry - 5 points

a. 5 - to show how poetic elements aid the poet to express his ideas
b. 5 - to enhance appreciation of poetry by sensitivity to various poetic elements
c. 2 - to get a better understanding of poetry and what it consists of
d. 2 - to identify and explain poetic elements
e. 1 - to introduce students to the five elements of poetry
f. 0 - to determine the poet's views on the subject

B. Children's Feelings and Writing Poetry - 3 points

g. 2 - to challenge the children to examine their feelings about summer as a basis for their poems
h. 1 - to show how children might be able to use elements to express their ideas poetically
i. 1 - to stimulate the children to do some writing of poetry
j. 0 - to determine whether or not the class agrees with the poet's views
k. 0 - to test the children's understanding of the elements by asking that they be used in their own poems

Question 1b: Maximum value - 2 points

A. Elements

a. 1 - teacher instructed the class to look "for things that would help us understand and appreciate poetry"
b. 1 - teacher told class to look for things, elements, that help you understand poetry better
c. 1 - teacher instructed class to be aware of the different elements
d. 1 - teacher asked class to describe some of the elements found in the poems

B. Feelings

e. 1 - teacher told class "to think about what the poet said and see if they agreed with his description of the season"
f. 1 - teacher instructed class to be aware of different views
g. 1 - teacher asked class what poet's feelings were and how they were conveyed
h. 1 - teacher asked class whether they agreed or disagreed, and if they had any other feelings

C. Writing Poetry

i. 1 - teacher indicated that class would write poetry which would incorporate the elements and their own views
j. 1 - teacher elicited their ideas about summer activities in order that their poems would reflect their ideas, not the poet's

D. Miscellaneous

k. 1 - she "got five characteristics and wrote them on the blackboard"
l. 1 - teacher asked leading questions as a basis for formulating the elements, and the purposes they serve
m. 1 - used pictures to start children thinking about summer

Question 2a: Maximum value - 13 points

A. Elements - 2 points

a. 2 - teacher focused on the elements of poetry in order to give them a basis for more interesting writing
b. 1 - teacher focused on elements which differentiate poetry from other forms of literature
c. 1 - stressed non-rhyming of poetry
d. 1 - different poets employ different rhyming patterns
e. 1 - teacher elicited from children an enumeration of the senses that could be affected by sensory imagery
f. 1 - teacher clarified the phrases used to denote elements
g. 1 - children were asked to provide synonyms

B. Poetry Usage - 1 point

h. 1 - teacher used the poems to illustrate some of the elements
i. 1 - teacher tried to get the children's views of the poet's feelings

C. Children's Feelings - 3 points

j. 2 - teacher elicited student's feelings about summer in order to give them a basis for writing
k. 2 - allowing children to verbalize their anticipations of summer activities motivated the children to their writing
l. 1 - teacher motivated students by discussing their anticipation of summer

D. Planning - 3 points

m. 2 - the lesson was unified - the discussion of one element led into another
n. 2 - lesson had clear pattern
o. 2 - poems dealt with one topic
p. 2 - as a conclusion children were instructed to keep elements and their anticipations in mind when writing their poems
q. 1 - selection of poetry was good
r. 1 - the topic was timely - children's enthusiasm for summer
s. 1 - acceptable goal
t. 1 - assignment was good because it leads into creative writing and provides for application of learning

E. Methodology - 5 points

u. 2 - silent reading was guided
v. 2 - children were advised to read silently with expression
w. 2 - her questions were asked in a manner which yielded the answer she wanted

x. 2 - teacher kept the children to the point at issue
y. 2 - elements were elicited from class, not supplied by teacher
z. 2 - teacher drew upon children's previous experience with poetry
aa. 1 - teacher showed pictures as motivation
bb. 1 - silent reading preceded discussion
cc. 1 - children were provided with copies of the poem
dd. 1 - teacher told children what the poems were about before distributing them; transition was orderly

F. Management - 2 points

ee. 1 - good voice - enthusiasm
ff. 1 - dramatic force
gg. 1 - children appeared interested
hh. 1 - relaxed atmosphere
ii. 1 - teacher showed liking for children; they returned it
jj. 1 - children were given an equal opportunity to contribute - class participation
kk. 1 - teacher gracefully rejected incorrect responses (teacher acknowledged answers)
ll. 1 - teacher used the blackboard

Question 2b: Maximum value - 17 points

A. Elements - 10 points

a. 5 - teacher did not clarify the meaning of all the elements
b. 3 - proportion of time devoted to elements too great
c. 3 - elements should have been carefully defined before asking children to look for them in poem
d. 2 - the many elements presented are characteristic of prose also, except for "rhyming schemes"
e. 2 - teacher should not have led students to believe that her five elements really distinguish poetry from other forms of literature
f. 2 - "word patterns" is not the same as "choice of words," "word patterns" is not an accurate title for the element to which it was applied (incorrect nomenclature)
g. 2 - teacher was too concerned with the nomenclature for the elements
h. 2 - teacher didn't mention what a rhyming scheme can or can't do for a poem
i. 2 - teacher spent no time showing how rhythm can express the moods of a poem
j. 1 - "sensory imagery" is too difficult a term for the pupils
k. 1 - visual aids might have been used to exemplify the element of rhythm (by tapping out the beat)

B. Poems - 4 points

l. 4 - teacher did not dwell on the relationship between the elements and her poems
m. 2 - "teacher did not discuss the poems at great length," nor in depth, but only superficially

n. 2 - too many poems for children to make a critical study of each
o. 1 - teacher could have had poems read aloud by the children to facilitate drawing elements from the poems

C. __Assignment__ - __2 points__

p. 1 - teacher should not have assigned everyone to write a poem; might have had a group-composition of a poem
q. 1 - children may be able to identify good poetry and/or be sensitive to its elements, yet not be able to write good poetry themselves
r. 2 - children were not prepared to think in terms of writing their own poems
s. 2 - lesson offered little stimulus for creativity

D. __Miscellaneous__ - __5 points__

t. 2 - teacher interrupted silent reading
u. 2 - children had too many essentials to find in poems
v. 2 - teacher started discussion before all pupils had finished reading ("v" includes "bb")
w. 2 - teacher repeated instructions to class while they were reading; should have written them on board
x. 2 - teacher interrupted children a number of times
y. 1 - teacher could have had the children mention some summer activities in the introduction instead of doing it all herself (teacher talked too much)
z. 1 - teacher was too quick to supply her own answers; should have given the children a chance
aa. 1 - pictures not used effectively
bb. 1 - should have given more time for reading poems
cc. 1 - teacher failed to listen to a child's question/answer
dd. 1 - "the pupils were jumped from discussing word patterns to whether they agreed with the poet"
ee. 1 - inadequate summary
ff. 1 - teacher ended lesson rather abruptly when she said they would write poetry on their own

Appendix C

Appendix C

HUNTER COLLEGE

CITY UNIVERSITY OF NEW YORK

ED. 35.330: "CONTENT" MATERIAL

This material has been drawn from a number of standard dictionaries and from the following three textbooks:

1. Betts, Emmett A., *Foundations of Reading Instruction*. New York: American Book Company, 1957, pp. 620-635, 645-654.
2. Gray, William S., *On Their Own in Reading*. Chicago: Scott, Foresman and Company, 1960, pp. 1-8, 32-65.
3. Harris, Albert J., *Effective Teaching of Reading*. New York: David McKay Company, Inc., 1962, pp. 357-370.

Direct quotations are indicated thus: (2:5) -- meaning Gray, page 5.

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Students are urged to consult these references for detailed information. What appears below is merely a summary of the highlights of the subject.

This is a tenative summary of material in this area and, as such, is open to criticism. It is presently undergoing revision.

I. Definitions

Group A

1. Phonetics - a science dealing with speech sounds and the art of pronunciation
2. Phoneme - "the smallest unit of sound by which we can tell one thing that is said from anything else that might be said," (2:5) consonants, vowels and accent being the three main kinds of phonemes
3. Phonogram - a graphic (written) unit representing a phoneme (3:358)
4. Phonics - "is knowledge about phonemes and phonograms; it involves the development of associations between phonemes and the phonograms that represent them, and an understanding of the principles governing the relationships of spoken words to written or printed words, which allows accurate translation of printed or written language into spoken language, and of spoken language into written or printed language." (3:358)
5. Digraph - a two-letter combination representing a single sound (SH is a consonant digraph; EA is a vowel digraph)
6. Consonant Blend - two or more successive consonants in a single word, pronounced in rapid order, but retaining their individual sounds (PLot, STRong)
7. Diphthong - special name for the vowel blend, there being only two: the OI sound in spoil and boy, and the OU sound in proud and now
8. Murmur Diphthong - the modified sounds most vowels have when followed by the consonant R (1:635)

Group B

9. Syllable - "a word or part of a word in which a vowel sound is heard" (2:7)
10. Monosyllable - a one-syllable word
11. Dissyllable - a two-syllable word
12. Plurisyllable - "a word of more than one syllable" (1:621)
13. Closed Syllable - a syllable ending with a consonant
14. Open Syllable - a syllable ending with a vowel

Group C

15. Root - "......a primitive word, is one that cannot be reduced to a more simple form in the language from which it was taken." (1:645)
16. Stem - "......the main part of a word......A part of the root in Dry is the stem in DRIED." (1:645)
17. Affix - "a prefix, suffix or inflectional ending" (2:3)
18. Prefix - "a meaningful element that is affixed to the beginning of a root word or a derived or inflected form" (2:5)
19. Suffix - "a meaningful element that is affixed to the end of a word" (2:6)
20. Compound - "a word composed of two or more words that combine their meanings to make a new word" (2:2)
21. Derivative - a word "composed of a root plus a prefix or suffix or both" (3:3)
22. Word Variant - a word "made up of a root and an inflectional ending" (1:646)

Group D

23. Accent (Stress) - "the degree of relative loudness with which a syllable is spoken" (2:1); a syllable receives either a primary or secondary accent or is unaccented

Group E

24. Glossary - (students are to know how it differs from a dictionary)
25. Guide Words - "words printed in black-face capital letters at the top of a page in the dictionary" (1:731)
26. Diacritical Marks - marks used to distinguish the sound of a letter and to indicate its pronunciation: breve, diaeresis, semi-diaeresis, tilde, macron, circumflex
27. Schwa - "the vowel sound heard in most unstressed syllables in English, the sound represented by the letters a, e, i, o and u in the unaccented syllables of SOFA, PROBLEM, APRIL, BALLOT AND CIRCUS" (3:6)

Group F

28. Acronym - an artificial word made by using the initial letters in a multi-word title, for example, CARE, NATO, SEATO
29. Antonym - a word directly opposite in meaning to another word
30. Heteronym - a word spelled like another, but differing in pronunciation and meaning
31. Homonym - any of two or more words, identical in sound, but differing in origin and meaning and often in spelling
32. Synonym - a word similar to another word in meaning and connotation

Group G

33. Inflection - the variations undergone by words to mark case, number, tense, person, mood and voice
34. Conjugation - the inflection of verbs
35. Declension - the inflection of nouns and pronouns
36. Comparison - the inflection of adjectives and adverbs

II. Phonic Generalizations

A. The English language requires over 40 phonograms to represent the sounds of the language. Therefore, practically every letter has to represent more than one sound.

B. There is a greater correspondence between consonant letters and the sounds they represent than between vowel letters and vowel sounds.

C. The pronunciation of some words (lead, read, etc.) can only be determined in context, not in isolation.

D. It is best to speak of generalizations rather than rules, because there are many exceptions.

III. Consonants

A. Single consonants with varying pronunciations

c - like k before a, o and u (cap, cop, cup)
c - like s before e, i and y (cement, civil, cypress)

d - sometimes like j (residual)

f - like v (of)

g - usually hard before a, o and u or at ends of words (gap, gone, gum, tag)
g - like j before e, i and y (gem, giant, gyroscope), except in some words like geese, got and give

s - like z (his)
s - usually like zh or sh before u (sugar, sure, treasure)

t - usually like sh before ion, ial, ious or ient (nation, glacial, cautious, patient)
t - often like ch before u (picture)

w - as a vowel (now, cow)

x - like ks (fox)
x - like gs when preceded by e and followed by a vowel (exact)
x - likg gz (exit)
x - like z at the beginning of a word (xylophone)

y - as a vowel at the end of a syllable (fry, city)

z - like zh (azure)

B. Consonant Digraphs
These are: ch, ck, gh, ph, qu, sc, sh, th and wh.

C. Silent Consonants
b - as in lamb, bomb, thumb; debt
c - as in scene, muscle, indict, czar
d - as in handsome, Wednesday
g - as in gnaw, gnome; sign, feign
h - as in oh, ah; heir, honest, hour
k - as in knee, know, knot
l - as in talk, would, alm
m - as in mnemonic
n - as in hymn, column
p - as in receipt, psalm, psychology
r - as in farther
s - as in isle, island
t - as in often, listen, castle
w - as in wring, wrong; who, whole

IV. Vowels

A. The five regular vowels (a, e, i, o, u) have long sounds (baby, ether, idol, oval, flute). A vowel is said to be long when "it says its own name."

B. The short vowel sounds are found in such words as cat, sled, in, cot, mud.

C. The semi-vowel y has a long i sound when it ends a monosyllable (cry, fly, try). It has the short sound of i when it appears within a syllable (myth, tryst) and when it ends a plurisyllable (snappy, psychology).

D. The semi-vowel w occurs only in the combinations aw, ew, and ow.

E. The sounds of single vowels are often modified when followed by r (murmur diphthong). "When a is followed by l, ll or lk, its value is deepened to an o sound." (2:367)

F. In monosyllables, visual clues can generally provide information about vowel length:

1. Initial and medial single vowels are generally short (and, elk, fit, rust).
2. Final single vowels are generally long (he, go, by).
3. The first vowel of a vowel digraph is generally long, the second silent (main, fleet, tie, how). On occasion the first vowel is short, the second silent (bread, laugh). Sometimes the second vowel is the one that is sounded (field, great).
4. In a monosyllable containing two vowel letters, one of which is a final e preceded by a single consonant, the first vowel is generally long and the final e is silent (make, these, pride, flute).
5. In monosyllables containing two vowel letters, one of which is a final e preceded by two consonants, the first vowel is generally short and the final e is silent (dance, else, fringe, pulse).
6. Spelling patterns often provide clues to vowel sounds (high, night, fight --- mind, rind, kind --- old, bold, cold).

G. In plurisyllables, visual clues can sometimes provide information about vowel length and accent:

1. In such dissyllables as matter, better, hidden and borrow, "two like consonant letters following the first vowel letter are a clue to an accented first syllable and to a short vowel sound in that syllable (except when the vowel sound is controlled by r)." (2:47)
2. Such words as ticket, socket, packet and bucket exemplify the generalization that "the letters ck are a clue to an accented first syllable and to short vowel sound in that syllable." (2:47)

V. Syllabication

A. Harris (3:368) summarizes the principles of syllabication as follows:

"1. When the word has a prefix, divide between the prefix and the root word (pre-fix, re-capture).
2. When the word has a suffix, divide between the root word and the suffix (sing-ing, love-ly, invit-ed).
3. Do not divide within a consonant digraph or blend (Cath-o-lic, rock-et, de-scribe).

4. When consonants that are not a digraph or blend come between vowels, divide between them (dic-tate, fan-cy).
5. A single consonant between two vowels usually goes with the following vowel (di-vide, se-cure).
6. A single consonant can go with the preceding vowel if that vowel is both short and accented (div-i-dend, prom-ise)."

B. One additional generalization is worth noting:

1. When a dissyllable "ends in the letters le preceded by a consonant letter, that consonant letter probably begins the second syllable." (2:46)

C. When in doubt about syllabication it is best to consult a dictionary.

VI. **Accent**

A. Harris (3:369) summarizes the generalizations about accent as follows:

"1. In words of two syllables, the accent may be on either the first or the second syllable (deaf'er, de-fer').
2. In words of three or more syllables, the primary accent is usually not on the last syllable.
3. In words containing prefixes or suffixes, the primary accent usually occurs within the root word.
4. In multisyllabic words, the first or second syllable has either a primary or a secondary accent (su"per-vi'sion, re-spon"si-bil'i-ty).
5. In words containing two accented syllables, there is usually one syllable between them (com"bin-a'tion, man"u-fac'ture).
6. In words containing a double consonant, the vowel preceding the double consonant is usually short and accented (pro-pel'ler, for-bid'den).
7. A final syllable containing a long vowel sound is usually accented (en-ter-tain', pa-rade').
8. In words containing certain suffixes (ion, ity, ic, ical, ian, ial and ious), the primary accent falls in the syllable preceding the suffix (sub"sti-tu'tion, e-qual'i-ty, ter-rif'ic, his-tor'i-cal, phy-si'cian, com-mer'cial, la-bor'i-ous).
9. A primary accent usually falls on the second syllable before the suffix ate (can'di-date, op'er-ate)."

B. To these may be added the following:

1. ".....when the final syllable of a word (ramble, eagle, bottle) ends in le preceded by a consonant, that syllable is usually unaccented." (2:47)
2. ".....the accent in words like record, contest, object, permit can be determined only in context....." (2:48)
3. ".....a common pattern of accent in compounds is that of a primary accent on or within the first word and a secondary accent on or within the second word....." (2:49)

4. ".....in many instances the root does not retain its original pronunciation in a derived form. Accent often shifts, and as a result vowel sounds often change;....." (2:51)

VII. Grammar

A. Five parts of speech are inflected: the declension of nouns and pronouns, the conjugation of verbs and the comparison of adjectives and adverbs.

B. Roots, prefixes, suffixes and inflectional endings are all units of meaning. (2:59)

C. Most suffixes have a grammatical function, but prefixes do not. (2:59)

Appendix D

APPENDIX D

HUNTER COLLEGE

EDUCATION DEPARTMENT

ED. 15.330 - "CONTENT" EXAMINATION 9/62

1. Two successive vowels, when pronounced in a sound sequence that gives the impression of being one sound, are called a
    1. morpheme.
    2. acronym.
    3. diphthong.
    4. vowel digraph.

2. "Guide words" are used in dictionaries to
    1. show how other words should be pronounced.
    2. indicate the range of words on a given page.
    3. help students select appropriate meanings.
    4. identify the etymological origins of other words.

3. A closed syllable ends with a
    1. consonant and usually contains a short vowel.
    2. consonant and usually contains a long vowel.
    3. vowel which is usually short.
    4. vowel which is usually long.

4. A homonym is a word with the same
    1. pronunciation as another word, but with a different spelling and meaning.
    2. meaning and spelling as another word, but with a different pronunciation.
    3. spelling and pronunciation as another word, but with a different meaning.
    4. spelling as another word, but with a different pronunciation and meaning.

5. A heteronym is a word with the same
    1. pronunciation as another word, but with a different spelling and meaning.
    2. meaning and spelling as another word, but with a different pronunciation.
    3. spelling and pronunciation as another word, but with a different meaning.
    4. spelling as another word, but with a different pronunciation and meaning.

6. Which of the following pairs are names of diacritical marks?
    1. Tilde, diaeresis.
    2. Hyphen, diaeresis.
    3. Hyphen, tilde.
    4. Tilde, morpheme.

7. The words KNOCK, SHOULD, WRETCH, THRIVE , have certain elements in common. They each have

   1. one silent letter and a consonant digraph.
   2. one short vowel and a consonant blend.
   3. one silent letter and a consonant blend.
   4. one short vowel and a consonant digraph.

8. The most accurate statement about consonants is that
   1. each consonant letter represents just one sound.
   2. each consonant letter represents two or more sounds.
   3. only some consonant letters represent just one sound each.
   4. only the consonants B, G, K, P, T and W may be silent.

9. What is the total number of silent letters in the words JAMB, KNIFE, GNOME and WALK?
   1. Seven (7).
   2. Six (6).
   3. Five (5).
   4. Four (4).

10. The correct pronunciations of RECORD and CONTEST are:
    1. RECORD´, CONTEST´.
    2. RE´CORD, CON´TEST,
    3. RE´CORD, CONTEST´.
    4. indeterminate in this context.

11. The number of symbols needed to represent all the sounds used in the English language is
    1. 26
    2. 31
    3. 37
    4. more than 40.

12. In the English language, the correspondence between consonant sounds and letters is
    1. less regular than the correspondence between vowel sounds and letters.
    2. as regular as the correspondence between vowel sounds and letters.
    3. more regular than the correspondence between vowel sounds and letters.

13. Correct pronunciation of the word "LEAD" is
    1. LĒD (long E) —
    2. LĔD (short E) ˘
    3. LEAD (diphthong E)
    4. indeterminate in this context.

14. When the letter A is followed by either L or W in words or syllables containing only one vowel, the pronunciation of A is
    1. short.
    2. long.
    3. slurred.
    4. none of the above.

15. A final Y is
    1. always long.
    2. always short.
    3. generally long in monosyllabic and short in plurisyllabic words.
    4. generally short in monosyllabic and long in plurisyllabic words.

16. In vowel digraphs, it is usually true that
    1. the first vowel says its own name and the second vowel is silent.
    2. the first vowel says its own name and the second vowel is short.
    3. both vowels say their own name.
    4. both vowels are short.

17. "Each of the board members present at the meeting was presented with a paper dealing with parole problems." The underlined words demonstrate that:
    1. vowel sound is not affected by accent.
    2. visual clues which aid in determining vowel sound usually apply only to accented syllables.
    3. a single consonant between two vowels is usually joined to the second in syllabication, unless the first of the two vowels is long and accented.
    4. vowels in unaccented syllables generally have a Schwa sound.

18. Some monosyllabic words contain two successive vowels. The generalization covering the pronunciation of these two adjacent vowels is that usually the first one is
    1. long and the second is short.
    2. long and the second is silent.
    3. short and the second is short.
    4. short and the second is silent.

19. If the first vowel in a dissyllable is followed by two like consonants, then the first vowel is generally
    1. long and the second syllable is accented.
    2. short and the second syllable is accented.
    3. long and the first syllable is accented.
    4. short and the first syllable is accented.

20. The rules of the English language permit us to draw only one of the generalizations below for these words: AGREE, PROBLEM, APRIL, CONFER, FOCUS -- namely that:
    1. two-syllable words almost always have an accented first syllable.
    2. any vowel can represent the Schwa sound in an unaccented syllable.
    3. the vowel in an accented syllable is almost always long.
    4. the second syllable in a dissyllable always begins with a consonant.

21. The monosyllables FRINGE, DANCE, HIGH, NIGHT, KIND, FIND, COLD and FOLD offer us the basis for
    1. making no single, common generalization about vowel length.
    2. generalizing that vowel length can never be determined by the use of visual clues.
    3. generalizing that vowel length can frequently be determined by the use of visual clues.
    4. generalizing that vowel length can always be determined by the use of visual clues.

22. If there are two vowel letters in a word, one of which is a Final E preceded by a consonant letter, the first vowel letter usually represents a
    1. long vowel sound and the final E is short.
    2. short vowel sound and the final E is silent.
    3. long vowel sound and the final E is silent.
    4. short vowel sound and the final E is short.

23. The words SAID, SAYS, SHRUAD, SENSUAL
    1. all begin with the same consonant sound.
    2. illustrate different ways of spelling the same vowel sound.
    3. all contain vowel digraphs.
    4. illustrate four different ways of pronouncing the letter A.

24. The way a vowel sounds is frequently determined by its position. For example, in monosyllabic words,
    1. initial vowels are generally long or R-controlled.
    2. medial vowels are generally short or R-controlled.
    3. final vowels are generally short.
    4. medial vowels are generally long or R-controlled.

25. When a word containing a consonant blend is broken into syllables,
    1. the consonants of the blend are separated in syllabication.
    2. the last consonant of the blend usually ends a syllable.
    3. the consonants of the blend are not separated in syllabication.
    4. the consonant blend usually forms a syllable with the vowel which precedes it.

26. When a word ends in LE preceded by a consonant letter, the last syllable is formed by
    1. LE.
    2. that preceding consonant plus LE.
    3. a vowel, the preceding consonant plus LE.
    4. a combination of letters whose number depends on where the primary accent is in the whole word.

27. If the first vowel in a dissyllable is followed by a single consonant, then the first vowel generally
    1. ends the first syllable.
    2. is unaccented.
    3. has a Schwa sound.
    4. has a short sound.

28. The pattern of accents in the words SECRETARY, SUPERVISOR, NECESSARY, consists of a primary accent
    1. plus three unstressed syllables.
    2. an unstressed syllable, a secondary accent and an unstressed syllable.
    3. a secondary accent plus two unstressed syllables.
    4. two unstressed syllables and a secondary accent.

29. In words ending with the suffix - ATE the primary accent falls on
    1. the syllable containing the suffix.
    2. the syllable before the suffix.
    3. the second syllable before the suffix.
    4. different syllables in different words, because there is no uniform pattern of accent.

30. In words ending with the suffixes - ION, - ITY, - IC, - ICAL, - IAL, - - IAN and - IOUS, the primary accent falls on
    1. the syllable containing these suffixes.
    2. the syllable before the suffix.
    3. the second syllable before the suffix.
    4. different syllables in different words, because there is no uniform pattern of accent.

31. In derivatives
    1. the root does not retain any kind of accent.
    2. the primary accent within the root often shifts, but the vowel sounds in the root remain unchanged.
    3. the primary accent within the root often shifts, and as a result the vowel sounds of the root often change.
    4. the primary accent within the root does not shift, but the vowel sounds in the root often change.

32. From the words REPRESENT, PIONEER, APPENDICITIS and ENCYCLOPEDIA we can conclude the following about accent patterns, namely that these words
    1. demonstrate no common pattern of accents.
    2. each have one primary accent.
    3. each have two primary accents.
    4. each have one unaccented syllable between two accented syllables.

33. In words of three or more syllables, containing only a primary accent,
    1. the first syllable always receives the accent.
    2. the second syllable always receives the accent.
    3. the first or second syllable receives the accent.
    4. there is no particular accent pattern.

34. Two like consonant letters before an ending or suffix are a clue to an accented
    1. middle syllable in the root word and a short vowel sound in that syllable (except when the vowel sound is R-controlled).
    2. final syllable of the root word and a short vowel sound in that syllable (except when the vowel sound is R-controlled).
    3. middle syllable of the root word and a long vowel sound in that syllable (except when the vowel sound is R-controlled).
    4. final syllable of the root word and a long vowel sound in that syllable (except when the vowel sound is R-controlled).

35. If the second syllable of a dissyllable contains two successive vowels, then this syllable is generally
    1. accented and contains a short vowel sound.
    2. accented and contains a long vowel sound.
    3. unaccented and contains a short vowel sound.
    4. unaccented and contains a long vowel sound.

36. If the second syllable of a dissyllable contains a final E preceded by a single consonant letter, then this syllable is generally
    1. accented and contains a short vowel sound.
    2. accented and contains a long vowel sound.
    3. unaccented and contains a short vowel sound.
    4. unaccented and contains a long vowel sound.

37. The letters CK in two-syllable words are a clue to an
    1. accented first syllable and a short vowel sound in that syllable.
    2. accented first syllable and a long vowel sound in that syllable.
    3. unaccented first syllable and a short vowel sound in that syllable.
    4. unaccented first syllable and a long vowel sound in that syllable.

38. The words TABLE, TICKET, BATTLE, BUTTER, JACKET, SETTER demonstrate that
    1. dissyllabic words generally have an accented first syllable.
    2. dissyllabic words containing two successive median consonants are syllabicated between the two consonants.
    3. the spelling of dissyllables can provide visual clues to accent.
    4. the spelling of dissyllables can not provide visual clues to accent.

39. The word UNMENDED contains a root plus
    1. two affixes.
    2. a prefix and a suffix.
    3. a prefix and a declensional ending.
    4. a prefix and an inflectional ending.

40. The words WORK, WORKS, WORKING, WORKED are examples of a root word and three
    1. derivatives.
    2. inflected forms.
    3. different suffixes.
    4. different declensions.

41. The words SOFT, SOFTER, SOFTLY, SOFTNESS — in that order - are: a root word,
    1. an inflected form, and two derived forms.
    2. an inflected form, a conjugated form, and a derived form.
    3. a conjugated form, and two derived forms.
    4. a derived form, an inflected form, and a derived form.

42. One generalization that can be made about affixes is that
    1. prefixes and suffixes are meaning units and that they both have grammatical functions.
    2. only prefixes are meaning units and only suffixes have grammatical functions.
    3. prefixes and suffixes are meaning units, but only suffixes have grammatical functions.
    4. only suffixes are meaning units and only prefixes have grammatical functions.

43. The following words are examples of three grammatical processes:
    a. Tall, taller, tallest
    b. Walk, walked, walking
    c. He, his, him

    In the order listed above, these are examples of
    1. Derivation, comparison and conjugation.
    2. Declension, derivation and comparison.
    3. Conjugation, declension and derivation.
    4. Comparison, conjugation and declension.

44. In English, the parts of speech that are inflected, in addition to nouns and pronouns, are
    1. verbs, adverbs, adjectives.
    2. verbs, adverbs, prepositions.
    3. verbs, conjunctions, prepositions.
    4. adjectives, conjunctions, prepositions.

Appendix D

Item Analysis Data (Average Difficulty Level and Discrimination Index) for 44 Item Content Examination When Used as Post-Measure during the Second Semester

Item No.	Average Difficulty (AD): % of sample passing each item	Discrimination Index (r)
1	14	.00
2	97	.30
3	88	.33
4	94	.08
5	88	.48
6	100	.00
7	91	.26
8	76	.27
9	82	.40
10	99	.11
11	96	.35
12	84	.44
13	96	.19
14	70	.43
15	79	.37
16	95	.25
17	20	.24
18	89	.23
19	88	.48
20	78	.45
21	76	.21
22	88	.33
23	58	.48
24	73	.53
25	94	.43
26	90	.43
27	63	.24
28	64	.31
29	84	.55
30	91	.51
31	69	.30
32	50	.31
33	60	.50
34	35	.35
35	71	.62

Item No.	Average Difficulty (AD): % of sample passing each item	Discrimination Index (r)
36	54	.41
37	91	.26
38	60	.42
39*	86	.27
40	91	.51
41	68	.37
42	72	.39
43	81	.48
44	91	.40

*A conflict in the definition of "affix" (noun) between two sources of information developed after this examination had been duplicated, resulting in scoring both the first and the fourth alternatives as correct. Alternative four had been the original correct answer.